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fueloil & oil heat

—with BRODIE METERS

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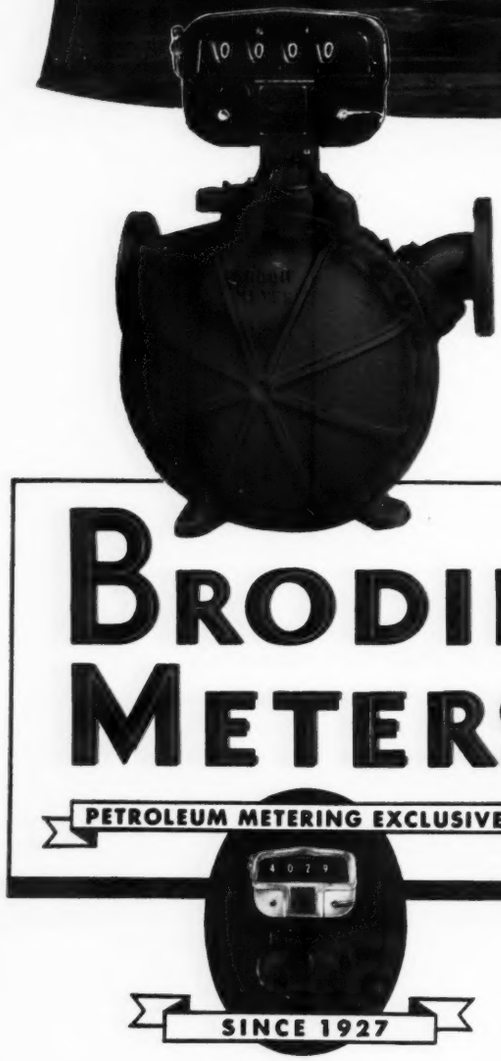

BRODIE METERS

PETROLEUM METERING EXCLUSIVELY

SINCE 1927

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REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES

VOL. 6, NO. 11

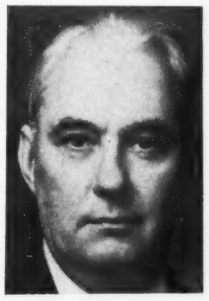
fueloil & oil heat

MARCH

1948

Names in the News

W. W. *Stuart,* Des Moines, Ia., has been named manufacurer's agent for the oilburning line of Nu-Way Corp., Rock Island, Ill. Mr. Stuart entered the heating business in 1903, working first on controls, and in 1911 turned his attention to oilburners, experimenting in design and operation. His first oilburner sales were made in 1919 and during the next ten years he built, installed and serviced both burners and control systems. During succeeding years he continued research work and was issued a dozen patents on heating and control inventions. While thus engaged he became more active in the wholesale end of the business and, a few years ago, discontinued installing and servicing burners and related equipment to develop his own jobbing business, and represent several manufacturers. Mr. Stuart has handled Nu-Way products for many years, but not as a manufacturer's agent.



Paul H. Rimbach, effective February 16, joined with T. G. Colter, New England representative for Dole Valve Co., Chicago 12, Ill. Mr. Rimbach will work out of Boston and specialize in the sale of Dole's new Thermo-Matic registers. His experience in oilheating began with four years from 1929 to 1933 as assembly man and field service engineer in New England for Waltham Oil Burner Co., Waltham, Mass. In 1933 he joined Minneapolis-Honeywell's Boston office as stock clerk and, subsequently, advanced to positions of assistant service manager, air

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FRONT COVER: Navy oil arrives at Port Socony, Staten Island, to relieve acute fueloil shortage.

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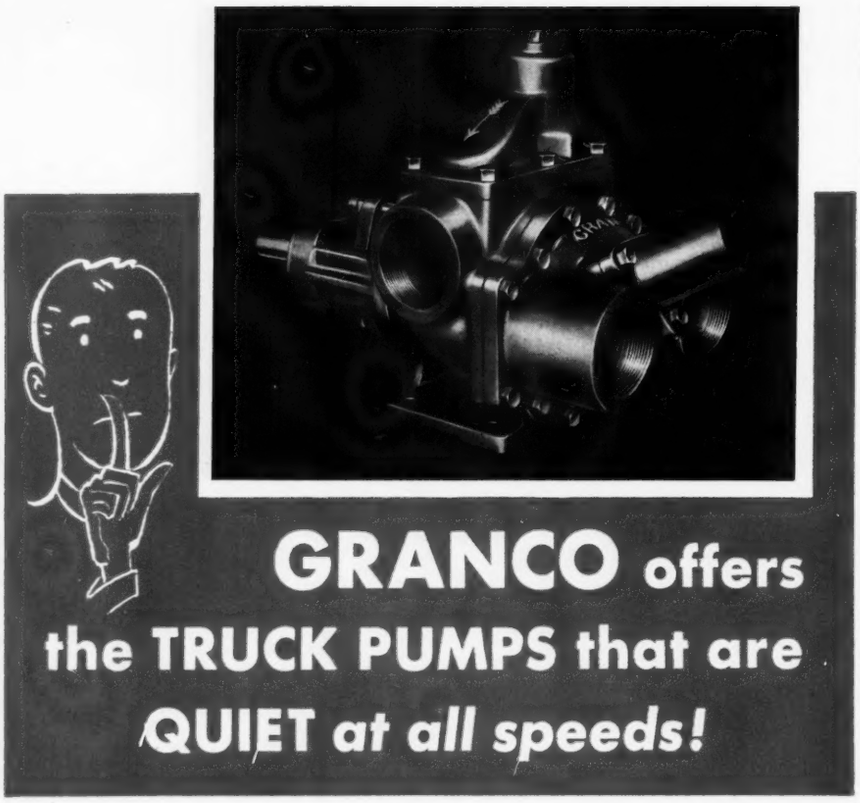

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For exceedingly quiet operation, both now and later...when silence is a vital factor in the delivery of petroleum products..· pumping all liquids, at all speeds... *depend upon GRANCO!*

Quiet operation is a necessity when delivering a load in *hospital zones* or *residential areas* at night.

With Granco Rotary Positive Displacement Pumps you get high capacity at low speed with unusual quietness. Yes, *you* can rely on GRANCO Pumps for your truck pump jobs and your bulk plant transfer operations, too! Write *today* for literature.

GRANCO PUMPS have the features YOU want!

4 ports • High capacity at low speed • Operate equally well in either direction • Rotor is only moving part • No metallic contact between rotor and housing—no drag • Long life—extremely low peripheral speed per revolution • Economical installation—piping arranged parallel to truck frame and shaft • Light weight • Compact • Complete—with built-in relief valve and outboard ball bearing • Handles all materials, from light volatiles to heavy bunker oil.

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SALES DIVISION OFFICES: New York City, Chicago, Dallas

GRANBERG CORPORATION, 1302-67th Street, Oakland 8, California

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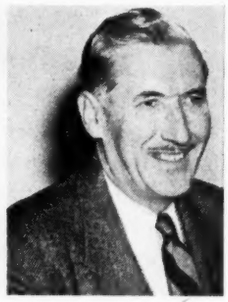
conditioning controls div.; field man in southern Massachusetts, service and installation manager for Honeywell of New England and, until recently, manager, heating controls division.

Norbert Berghoff, general manager, Wayne Home Equipment Co., Fort Wayne 4, Ind., was credited by Captain John Fordan of the S. S. Santa Clara with spotting Tomas Montanez in the waters of the Caribbean Sea on February 20, after the ship had retraced its course to search for him. Montanez, ship's carpenter, spent three hours in the sea after having fallen overboard accidentally. The Santa Clara had doubled back twenty-five miles when Mr. Berghoff, near sunset and with the sea beginning to pick up in rolling swells, spotted the missing man.

Allen A. Putt has been appointed eastern sales representative for the controls division and *Alfred B. Meeg,* manager of the industrial controls division, Perfex Corp., Milwaukee, Wis. Mr. Putt has had twenty-five years experience in the controls industry, and served

Meeg



Putt

as manager of Detroit Lubricator's New York office from 1925 to 1940. For the past two years he has served as manager of commercial sales, Friez Instrument Div., Bendix Aviation Corp. In his new capacity, Mr. Putt will operate from the company's New York office as a special sales representative. He is World War I veteran and spent six years in the Army in World War II, during which he received the Silver Star for his part in the invasion of Luzon.

Mr. Meeg is a mechanical engineering graduate of the University of North Dakota and succeeds M. W. Crew who left Perfex to enter his own business. In 1930 Mr. Meeg joined Iron Fireman's Chicago office, later transferred to the Milwaukee branch and has been its manager since 1938.

When OHI wore knickers...

OHIO pioneered the oil burner motor of today

Time is the test of ideas, men and materials. Anniversaries pay tribute to success.

As a member of Oil-Heat Institute of America, Ohio Electric designed and built in 1924 *the first flange-type oil burner motor.* Its universal use and acceptance today records the importance of that pioneering vision.

We cannot say exactly how many Ohio Motors are in use today. Estimates from time to time, however, have fixed the percentage of domestic burners powered by Ohio at 30%.

Words like "dependable"..."quiet"..."accessible" have often described this leading motor. But for a real description, ask the oil burner manufacturers who use them . . . the dealers who sell them... the home owners who have them.

Their word is better than ours.

Ohio MOTORS

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Visit Us at the Chicago Exposition, Booth No. 214-216

fuel oil & oil heat

Editorial Leaks

A sign of spring as dependable as the first robin is the comparative indifference with which terminal operators are viewing 14-cent heating oil in the New York Harbor spot market. Supply still was short at the start of March, but the spot price had fallen from 18 and 19 cents in mid-winter to the relatively comfortable 14-cent level, but there was no rush to buy.

Bulk inventories were low, and the consumer demand remained steady, but operators were resisting the meager spot offerings. Prices had softened appreciably, and with the prospect of less consumer demand in the near future, bulk plant operators were playing safe.

The first crocus will be right along. After a tough winter, harried fueloil men in the East will be among its most ardent admirers.

◈

Since attention first was called to the illegal regulation being exercised over oilburner installations by local officials, action has been started to quell overzealous "guardians" of the public welfare. In the last month "Uncle Fred" Beckwith of the New England OHI has sent his legal talent against the Massachusetts fire chiefs who were refusing permits for burners in areas of acute shortage. State courts have ruled that fire chiefs have no such right, and must confine their activities to the realm of safety and fire prevention.

President Bohn of OHI has named a Legislative Committee headed by W. A. Matheson to watch for adverse bills and proposals, and present the industry's case. Considerable harm to the public and to the whole oilheating industry can be done by well-meaning legislators who have too little knowledge of the problems they are seeking to correct.

Besides those who know no better, there are, in this election year, many politicians who would like to "do something" for "the peepul" and for special interests. Committees cannot do the whole job. It will require the vigilance of every member of the industry.

◈

Late in February four drivers for a prominent New York fueloil company were arrested for allegedly stealing heating oil by shorting drops and selling the difference in the black market. Fueloil had been on the front pages for two months and any mention of it was news.

Such a situation served as a springboard for publicity-starved officials to make a pronouncement. Newspapers blossomed black headlines estimating that 10% of the fueloil delivered in the city was stolen. It was not explained how the officials arrived at such a figure, or what they had done about it in view of their knowledge that any such amount of oil—an average of 20 gallons per domestic delivery—was being stolen.

Taking 232,800 domestic burners which were operating in the city at the first of the year as an average for the season, and 2,000 gallons as the average consumption, 465,600,000 gallons of No. 2 oil alone were used in the city this season. Ten per cent gives the ridiculous figure of 46,560,000 gallons of furnace oil alone that is stolen currently each year, according to the publicized estimate of city officials.

If responsible officials believe the statements they have made, they have been woefully lax in allowing such larceny to continue. It is hard to hide a tank truck in a city street, and even the most casual check of drivers would reveal a 10% shortage in deliveries.

It is more likely that the boys at City Hall were simply grabbing a quick headline with an irresponsible statement. But the public still thinks the industry is 10% crooked.

◈

Reserves of crude oil, a shortage of which has been loudly predicted by high government officials looking for appropriations, increased again last year more than 600 million barrels over total production. This, of course, will have little effect on the publicity that is regularly released on oil shortage. We know that it will be completely ignored, but the fact stands that in the midst of all the synthetic concern for our natural resources, reserves again have reached a new all-time high.

Talk of impending exhaustion of our crude oil is a periodic phenomenon. It occurs with a regularity that suggests some correlation with sunspots or the movement of large air masses. It is certain that there is no relation between the periodic rise in concern and any figures on oil availability. Each time the scare is raised the oil in sight is greater than the time before, and figures on reserves continue to climb in spite of record high production.

In only one year of the last eleven have reserves discovered been less than crude oil production. In 1943 the reserve figure at the end of the year was 18.6 million barrels less than at the start of the year. Reserves have increased in each of the other ten years by amounts ranging from 2.4 billion barrels in 1937, down to only 373.5 million barrels in 1945.

It is obvious that the scares raised from time to time concerning our oil supply are for reasons other than any real fear of shortage.

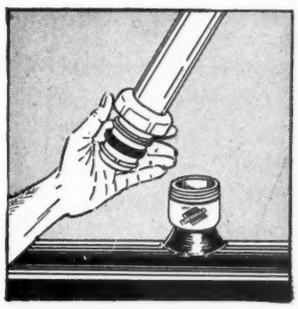
◈

A prominent executive in the oil industry recently is reported to have protested the suggestion elsewhere in this issue that an increase of 1.2% in distillate yield earlier in the season would have solved the fueloil problem. He allegedly said that such an increase in fueloil yield was not possible, since there was no storage available to hold the additional heating oil that would have been so produced.

We have no detailed knowledge of the tankage available, and would not attempt to refute the statement of a man who undoubtedly has such information, but there is one point that is still unanswered.

How did the petroleum industry find storage for 6 million more barrels of gasoline this winter than last, when there was no storage available for needed heating oil? The protest sounds like a quick excuse for a major blunder. That straw will not support a drowning man.

SAVING $11,000.



The LC model VENTALARM is easily installed on old tanks. A quick compression fitting with bayonette lock eliminates any pipe threading. Takes only 15 to 20 minutes.

The driver above is saving 33¢ on this *one* delivery. But — his boss has 700 oil accounts. And his boss is saving a *minimum* of $11,000 during the next 5 years!

How is such saving possible? Just simple arithmetic! 700 accounts each averaging 12 deliveries per year is 8,400 deliveries a year. Over a 5 year period that is 42,000 deliveries.

Multiply 42,000 drops by 33¢ and you come up with $13,860 saved. Deduct $2,450 which is a fair installed cost of 700 VENTALARM Signals ($1.95 for LC VENTALARMS in hundred quantities plus $1.50 for installation makes a total expenditure of less than $3.50 per customer). That yields a net 5 year saving of $11,410! For mouth filling round figures, let's call it an even $11,000!

How'd we save the original 33 cents? Your driver stays out of houses. He eliminates all unessential moves. He safely pumps more oil in less time. He saves a minimum of 5 minutes a drop. Figure that on an hourly $4.00 cost for truck and man. It should come out 33¢. If it doesn't — write us. Write us anyway! If you are in the fuel oil business, you should have full information on VENTALARM Tank Fill Signal — and how easily it can be installed on your present customers' tanks.

***There are 40 different sizes and models of* VENTALARM SIGNAL**

PURCHASE FROM YOUR FAVORITE SUPPLY HOUSE

SCULLY

VENTALARM

T.M. REG. U.S. PAT. OFF.

Whistling **TANK FILL SIGNAL**

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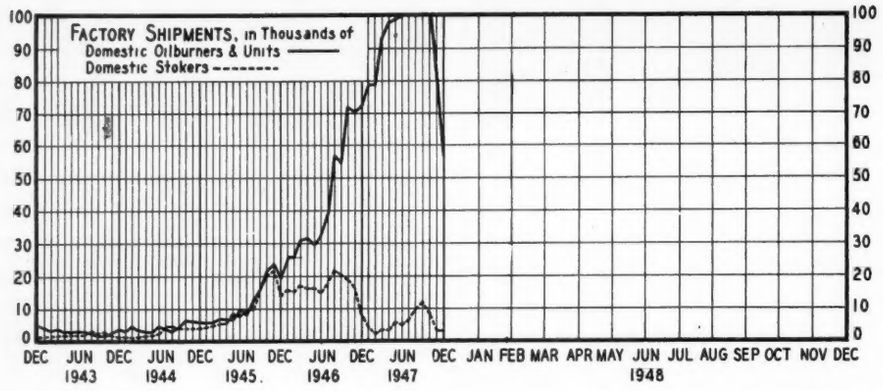

FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units ——
Domestic Stokers --------
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1943 1944 1945 1946 1947 1948

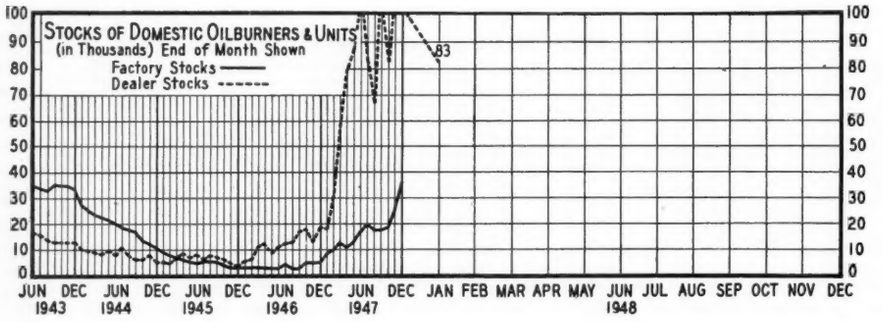
Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 162 reporting to Census Bureau, FUELOIL & OIL HEAT'S estimates of shipments are:

	DECEMBER			TWELVE MONTHS		
	1947	*1946*	*Percent Change*	*1947*	*1946*	*Percent Change*
Conversion	37,614	58,995	— 36.2	943,185	468,974	+101.1
Boiler units	2,306	4,537	— 49.2	57,906	27,503	+110.5
Furnace units	17,470	8,731	+100.1	194,121	40,836	+375.4
All domestic	57,390	72,263	— 20.6	1,195,212	537,313	+122.4
Commercial	3,813	4,827	— 21.0	53,993*	40,676	+ 32.7
Total	61,203	77,090	— 20.6	1,249,205*	577,989	+116.1

*December Revised

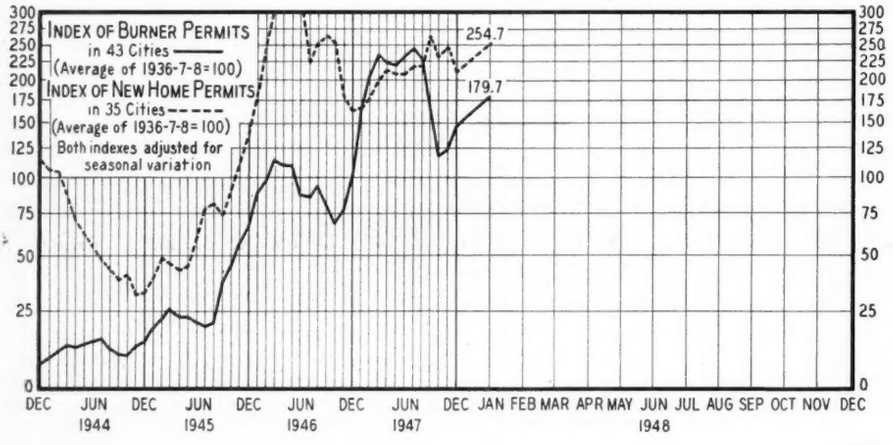

STOCKS OF DOMESTIC OILBURNERS & UNITS
(in Thousands) End of Month Shown
Factory Stocks ——
Dealer Stocks ------
83
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1943 1944 1945 1946 1947 1948

January Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
Highest	$550	$995	$680
Lowest	290	440	450
Jan. Aver.	350	696	613
Dec. Aver.	341	694	628

Price Index: Conversion Burners: January 1940 is 100%

WHOLESALE				RETAIL			
January	144.6	Six months ago	144.0	January	151.1	Six months ago	144.7
December	143.3	Year ago	165.3	December	148.3	Year ago	147.9


INDEX OF BURNER PERMITS
in 43 Cities ——
(Average of 1936-7-8=100)
INDEX OF NEW HOME PERMITS
in 35 Cities - - - - -
(Average of 1936-7-8=100)
Both indexes adjusted for
seasonal variation
254.7
179.7
DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1944 1945 1946 1947 1948

Oilheating Trends

AN ESTIMATED 38,194 DOMESTIC oilburners and units were installed in January, a decline of 35% from the 59,090 installed in January 1947. Oilburner permits, from thirty-six cities, did not drop as much; in fact, they were down only 9.2%. Dealer reports, however, averaged substantially lower. The permits show a heavier new home weighting. The January decline is considerably less than had been expected, since there had been a strong feeling that oil supply troubles were frightening most prospects away from oilheating. Obviously, this is not the case.

REPLACEMENTS, NEW HOMES: January installations went heavily to replacements of old burners, with this category accounting for 15,660, or 41% of the total. New home installations were 28% of the total or 10,694. This leaves only 11,840, or 31% to represent installations that converted a heating plant from coal to oil. The December ratios had been: replacements 27%, new homes 28% and conversions from coal 45%.

Now that a number of the largest burner manufacturers have started replacement campaigns among their dealers, and with these campaigns already showing good results, there is a possibility that we may reach a very high replacement figure for the year. In view of the January performance it is not unreasonable to expect a year's total as high as 150,000 replacements.

BURNER STOCKS: Stocks of domestic burners and units in dealer hands on February 1 were approximately 83,115, representing a drop of about 25,000 during January. With general business among the smaller dealers pretty well slowed down, they will be exerting considerable effort to dispose of their stocks, since many of them will need the money. Factory stocks on December 31, latest available data, were 35,707, a high point since the war ended, but still relatively insignificant.

OIL SUPPLY TROUBLES: During the month of January approximately 95,261 homes in the country were out of fueloil for some period ranging from

an hour to three or four days. This looks like an astronomical figure, but of course it is only around 3% of the number of oilburners operating in the area east of the Rockies. In the Rocky Mountain and Pacific states there has been no appreciable supply trouble and none is expected.

Eastern states took the brunt of the difficulty. Along the Atlantic Seaboard 27% of the reporting fueloil distributors had one or more runouts during the month, due to their not having oil on hand, while 45% of the distributors in that area had one or more runouts due to storm conditions, while the dealer had stocks in his tanks but was unable to get trucks through some of the streets. All told, 3.6% of eastern oilheated homes skipped a beat sometime during the month. Of these, 2.8% were caused by the distributor having no oil, and .8% due to storm conditions.

In the Midwest only 14% of fueloil distributors report any runouts because of supply conditions and none report dry customer tanks due to storm conditions. The total number of Midwest customers whose tanks went dry were approximately 10,820 which is 1.4% of total customers.

Naturally, whenever a good many thousand customers are out of oil, the impact on the industry is bad, particularly the amount of newspaper publicity. It is interesting to notice that in all the critical areas only about 3% of homes ran out. If they had been out of oil all month that would have indicated only a 3% supply stringency at the emergency level. Of course, what actually happened was that only a few of them were out for more than a matter of hours so that the actual default by the oil industry in taking care of its public responsibility was only a small fraction of 1% during the month.

It is understandable, however, that fueloil distributors throughout the country half killed themselves during the month in order to get a result as favorable as this. Their degree of fatigue and anxiety is recorded in the fact that only 35% in all the critical area find the present situation comfortable, with 65% reporting substantial difficulty. On the other hand, they are more optimistic than that over ability to supply all of their customers for the remainder of the season. Asked if they now expect to carry all of their accounts through February and March without additional runouts, 50% of Eastern fueloil distributors are confident that they can do this, while approximately 80% of Midwest oil men vote "Yes" on that question. Among those who doubt their ability to get by without further trouble, the principal reason is that their suppliers have put them on allocations, or else have announced that they expect to do so.

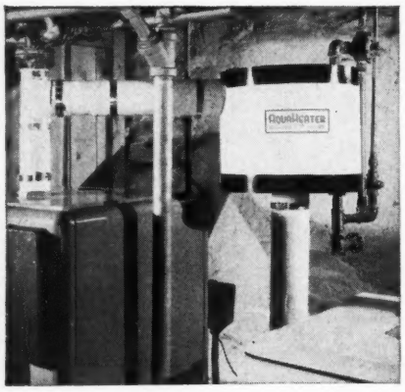
HARDSHIP CASES: Apparently about two-fifths of the substantial oilheating markets have established formal facilities to handle hardship cases, such as industry committees or municipal administrators. In the other cities individual companies seem to be trading around among themselves, whenever

(*Continued on page 190*)

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
January		12 MONTHS			*January*		12 MONTHS	
1948	*1947*	*1947*	*1946*		*1948*	*1947*	*1947*	*1946*
260	5	9600	5371	Baltimore, Md.	296	136	3197	4477
..	..	..	..	Binghamton, N. Y.	0	1	3	120
..	626	..	..	Boston, Mass.	35	11	586	221
82	130	1794	834	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	23	8	207	252
..	..	..	..	Des Moines, Iowa	35	32	970	1192
..	371	..	2103	Detroit, Mich.	459	328	9403	8037
76	16	844	766	Elizabeth, N. J.	0	1	93	22
11	27	450	492	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	5	7	272	194
..	..	..	..	Hackensack, N. J.	0	0	50	114
63	139	1996	1085	Hartford, Conn.	..	..	..	..
1	19	486	520	Irvington, N. J.	0	1	36	21
..	..	..	..	Lynn, Mass.	3	4	115	64
58	32	..	244	Meriden, Conn.	..	..	..	..
153	144	3074	1304	Milwaukee, Wisc.	70	25	1347	1510
139	139	2757	772	Minneapolis, Minn.	30	62	1545	1531
11	12	361	454	Montclair, N. J.	..	..	..	..
7	25	579	597	Mt. Vernon, N. Y.	..	..	..	..
62	70	614	511	New Bedford, Mass.	..	..	..	..
18	66	948	538	New Haven, Conn.	..	..	..	..
0	0	1	0	New Orleans, La.	..	..	..	..
12	23	429	457	New Rochelle, N. Y.	1	8	89	131
..	5318	57,688	46,673	New York City (total)	..	..	..	..
..	4535	48,493	39,542	Brooklyn-Queens	..	..	..	..
439	783	9195	7131	Manhattan, Bronx, Rchd	..	..	..	..
150	103	960	621	Norfolk, Va.	37	24	791	805
0	1	14	7	Oakland, Calif.	..	..	..	..
182	97	3060	986	Omaha, Neb.	12	20	871	805
5	8	280	283	Orange, N. J.	0	0	..	..
..	..	..	578	Passaic, N. J.	..	..	..	..
10	24	1143	939	Paterson, N. J.	10	1	62	71
343	559	..	8283	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Plainfield, N. J.	2	6	134	103
21	91	1049	548	Portland, Me.	0	0	158	104
..	336	9051	3050	Portland, Ore.	121	85	1418	1901
26	14	335	247	Poughkeepsie, N. Y.	..	..	..	..
..	174	1135	958	Providence, R. I.	..	..	..	..
..	..	..	..	Reading, Penna.	1	1	32	88
122	34	1614	382	Richmond, Va.	74	27	722	1299
58	116	3649	701	Rochester, N. Y.	..	..	..	..
16	18	368	..	Rockville Center, N. Y.	8	5	198	89
16	18	394	251	Salem, Mass.	0	0	44	18
122	117	3240	1025	St. Louis, Mo.	24	15	396	316
142	142	3380	1544	St. Paul, Minn.	36	24	1034	1140
114	52	1011	262	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	261	126	2004	2520
..	..	..	..	Springfield, Mass.	16	11	574	584
53	23	473	381	Stamford, Conn.	..	..	..	..
..	..	..	326	Syracuse, N. Y.	..	..	..	..
..	..	..	..	Trenton, N. J.	0	0	57	15
..	..	..	..	Utica, N. Y.	2	1	114	40
108	277	3573	2711	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	..	..	96	110
..	47	733	352	White Plains, N. Y.	..	..	96	30
78	82	1371	740	Wilmington, Del.	3	0	101	194
91	114	1767	898	Worcester, Mass.	..	..	..	..
9	47	733	769	Yonkers, N. Y.	..	..	..	..
3238	3567	17,821	12,470	*Totals*	1564	970	26,771	28,118
— 9.2		+42.9		*Percent Change*	+61.2		—4.8	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.



AQUAHEATER

—THE ONLY TANKLESS WATER HEATER WITH

ALL 3 FEATURES

1. BETTER DESIGN

Thirty-four years of heat exchanger experience are built into the coil and shell design of the AquaHeater. The unique Turbuflow copper coil assures a maximum flow of domestic hot water, with no place for steam or air to cause vapor-lock and consequent erratic or noisy operation. The flow of hot boiler water around the Turbuflow coil in which domestic water continually rises as it passes through, gives full use of the counter-flow principle. Boiler pipe connections are scientifically placed on the shell for positive circulation.

2. FULLY-WELDED SHELL

No gaskets to be fitted. No danger of leaks. The shell is welded and pressure-tested after the copper coil is in place. Only boiler water contacts the steel shell, hence it will last at least as long as the heating boiler.

3. PRE-FORMED INSULATION

Substantially reduces stand-by losses and saves many fuel dollars yearly. Pre-forming insures ease of application. Its attractive appearance makes AquaHeater suitable for club basement or other installations where beauty and compactness, as well as practicability are desired.

AquaHeater features build customer satisfaction and good will . . . make easier sales and more profits. AquaHeater is simple to install. Try one the next time you put in a hot water heater—whether in a new house, a conversion, or replacement of a leaky storage tank. One trial, and you'll use AquaHeater ALWAYS!

Write for further details mentioning your Plumbing Supply House

JOSEPH E. LEWIS & CO., INC.
Department B
BALTIMORE 30, MARYLAND

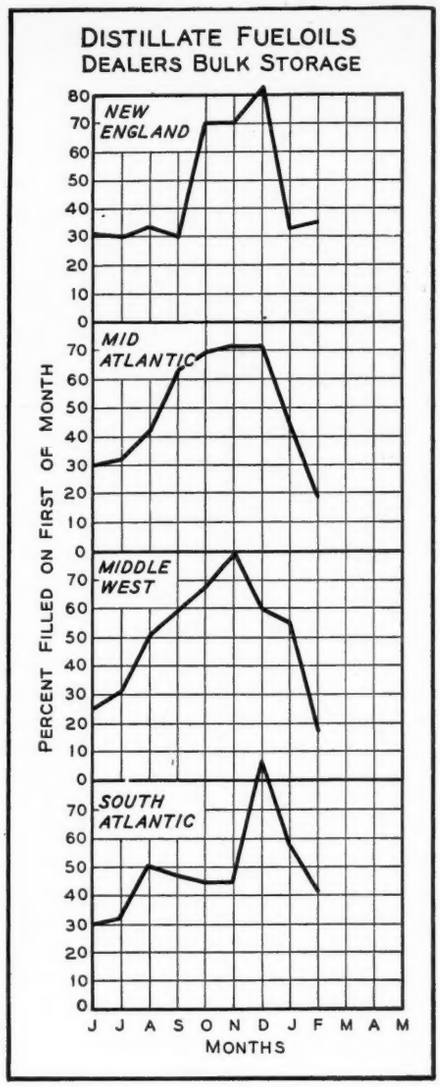
Fueloil Supplies

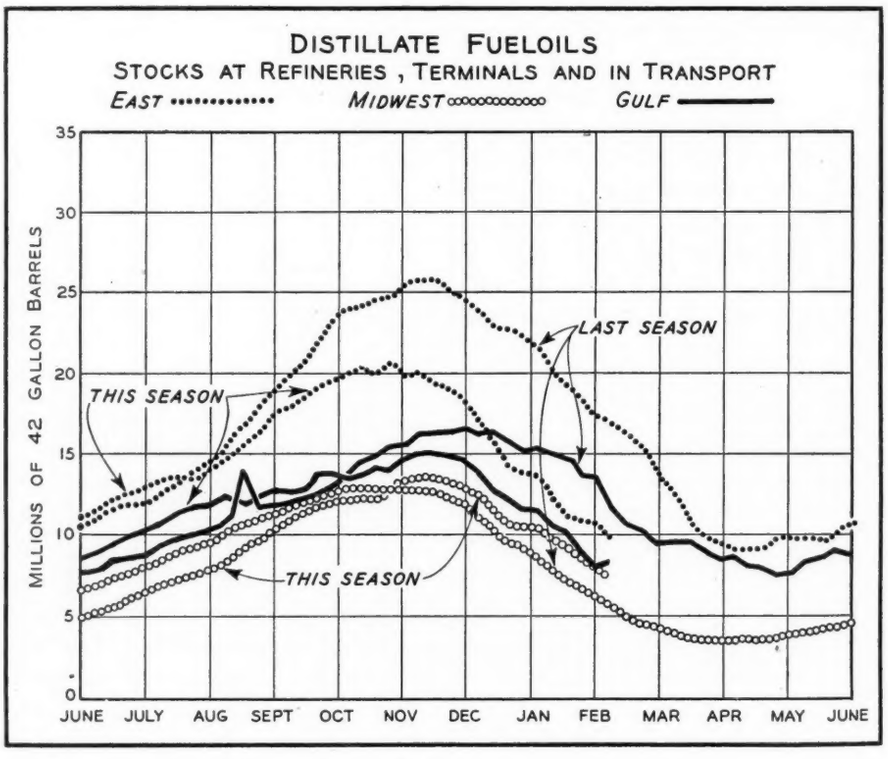
BULK STOCKS IN hands of local fueloil distributors on February 1 stood at only 22% of their storage capacity, compared with 34% on the same date of 1947, and compared with 47% on January 1, 1948. This refers to distillate fuels. Kerosene stocks, on the other hand, were 44% of capacity on Feb. 1 and 48% on the same date the year before. Particularly in the Midwest, kerosene was plentiful.

DEALER STOCKS
(Thousands of Barrels)

		No. 2 or 3 Distillates	No. 1, Range, Kerosene
East Coast	2-1-48	3,507	1,257
	2-1-47	5,642	1,486
Midwest	2-1-48	709	1,720
	2-1-47	1,024	1,695
East of Rockies	2-1-48	4,216	2,977
	2-1-47	6,666	3,181
Percent Change		—36.8	—6.4

Distillate stocks at refineries, in primary storage or in transit on February 28, the latest available data, were 22,033,000 Bbls. in the area East of the Rockies, compared with 27,132,000 for the same week the previous year, a drop of 5,099,000 Bbls. or 19%.





The Real Fueloil Situation

Clearing in The Fog Shows Much More Shouting Than Shooting*

NOT OFTEN ENOUGH IN A TIME of difficulty do we have a chance to step back from the detail of our troubles to see clearly what caused them, and where they might be leading us. A man with a bad headache is so occupied with his immediate distress that he forgets he won't always have it.

For the moment fueloil and oilburner men are in trouble . . . their outlook is so clouded that some of them naturally are gloomy about the future. If we could have a better understanding of just what has brought these troubles, and of what is actually going on at the present time, perhaps we could clear up some of the confusion.

During the past few weeks we have been searching for the reasons that underlie this winter's crisis. The more we investigate the better we feel about the whole thing. Not only are we now confident that the worst is past, but more important, there seems no probability that these troubles will be repeated next winter.

The first cause of our hardship this year is just what everyone has been saying . . . people insisted on getting oilheating into their homes at a rate much faster than even our most optimistic prophets had expected. The oil industry didn't keep pace with the public acceptance of its product.

But there are several more immediate causes of the fueloil stringency . . . some of them situations that could have been avoided, but for the fact that they had never before been encountered.

First, the winter's demand for fueloil was seriously underestimated during all of last year. The oil industry did not make nearly as much of the distillate, or home heating variety of fuel, as it could have provided, and provided without serious inconvenience to the overall petroleum economy.

Almost any of you will agree that if our stocks of distillate oil were as high today as they were a year ago, we would be causing very little hardship to our customers. In the area east of the Rocky Mountains, which is the only section of the country in short supply, our stocks have been running all winter just about 10 million barrels below a year ago. Just now they are only 8 million barrels short of 1947, but let's think in terms of 10 million as the missing quantity, as that is more like the season's pattern. We were short this 10 million barrels throughout December and January.

It is quite well known that refineries have a great deal of flexibility in the products they make from a barrel of crude oil. They can turn out more or less gasoline, more or less fueloil, and so on, depending upon how much they think the public is going to need.

Small Shifts in Ratios

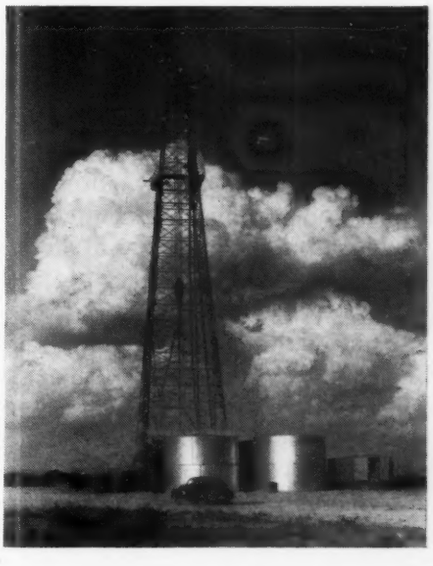
The missing 10 million barrels of distillate fueloil could have been provided by splitting the barrel of crude to produce 1.2% more of it. Starting back on June 1, the last date on which fueloil stocks were as favorable as they had been in the previous year, the industry ran 17.2% of its total oil into distillate fuels, down to the end of the year. If this yield had been 18.4% instead of 17.2%, we wouldn't have lost the 10 million barrels.

Through the same seven-month period, gasoline accounted for 44.7% of all petroleum refined. If all of the additional fueloil needed had been taken from gasoline alone, the gasoline yield would have dropped to 43.5% of the barrel.

The oil industry would have made this shift if it had been thought necessary, particularly in view of the fact that gasoline stocks east of the Rockies are today 6 million barrels above a year ago. No important oil man will deny that this change in ratios should have been made, to avoid this winter's troubles.

Oilburner installations had been underestimated nearly a quarter million, by the most optimistic forecaster which was our group. We expected 586,000 installations in 1947; there were 820,000. The unexpected additional 234,000 oilburners that we have in use this winter will burn 11 million barrels of fueloil. Most of those excess burners went into new homes. During 1947 about 262,000 new home oilheating installations were made—or over four times the 59,000 new home jobs of 1946.

In addition to underestimating the fueloil demand, until it was too late to provide the necessary supply, the oil industry showed a lack of experience in accurate distribution of the product that was available. No unbiased or objective person will point the finger of blame at the oil industry's economists over this situation, since this is the first season that they have ever had to work without a supply cushion.



*This is based on a discussion by Robert Gray at the February meetings of Massachusetts Oil Heating Assn. and the South Caroline Oil Jobbers Assn.

The oil industry, except in wartime when distribution was rationed, has always operated with a surplus. Before this year it was never necessary to know exactly how much product was needed, exactly where and when. Rough estimates were good enough, and the errors were washed out in the surplus. For that reason the oil companies had not developed staffs large enough and with the necessary skill to be accurate in distribution in a tight season.

To illustrate how tightly the supply and demand for all oil products are in balance, the demand for February was 5,331,000 barrels a day, while supply is 5,350,000 barrels a day, according to the Bureau of Mines. This gives us a working cushion of only 19,000 barrels a day, or 1/3 of 1%.

Better Administration

For the season ahead we can expect the oil industry to put much more effort into accurate studies of what product is needed, and where to put it. It was impossible this year to clearly foresee the different growth rates between states. In Rhode Island, for example, an old oil-heating state approaching saturation, the 1947 growth in oil customers was only 13%, while in Florida and South Carolina the expansion was over 50%.

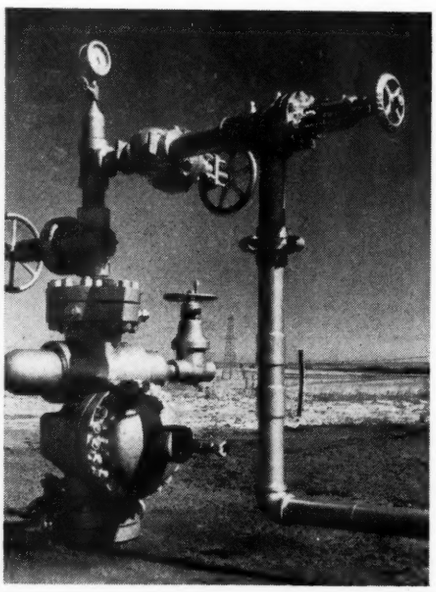
Different rates of growth between fueloil distributors also caused a lot of confusion to the major suppliers. When in December they fully recognized how serious was their problem, there was no time to learn the exact needs of the many thousand fueloil distributors, so they were forced to adopt allocations, to "treat 'em all alike," using the year before as a base. This may have avoided discrimination between marketers, but it brought real discrimination to consumers.

An active, alert distributor who had grown 30% during the year couldn't possibly supply his customers as well as could the lazy oil man who had not increased his volume, since they both got the same per cent of the previous year. But this allocation method was about the only way to handle it, at the last minute. In another year there will be time and more of a willingness to balance supplies to needs. Remember that many markets and many dealers have had no troubles.

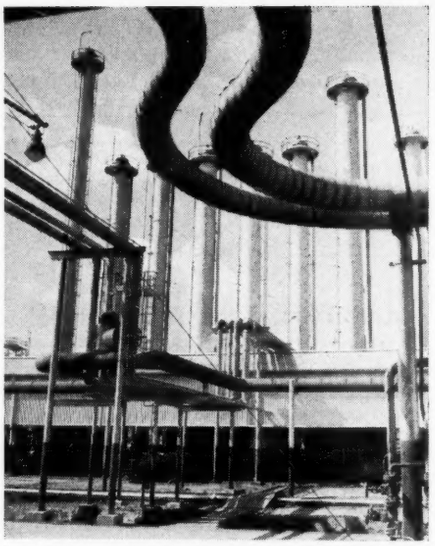
The very cold weather this season has hurt us more than most men recognize. In the whole area of the country east of the Rockies, this winter has been 23% colder than last winter, to the end of January, and 8% colder than normal. It's been many years since we have had that much of a drop over so wide an area. Ordinarily, one section is cold while another is mild, but this year it's universal.

We know from our automatic delivery operations that the need for oil is directly related to weather. This abnormal cold has caused fueloil demands east of the Rockies to be 12 million barrels more than normal and 28 million barrels more than last winter. Think of those figures in connection with our 10 million barrel deficiency in stocks.

Let's look for a minute to see just how seriously the public has been hurt. During December about 34,000 centrally heated homes ran out of oil for one cause or another. In January there were 95,000 central heating runouts in the whole country, based on our monthly dealer studies. Thus in the two months a total



of four per cent of oilheated homes were dry for periods of a few hours to a few days. If they had all been out of oil for the whole two months, that would indicate a four per cent shortage at the consumer level. But actually, they didn't average more than a one day or two day shutdown, so our industry's net default to the oilheating public was a small fraction of one per cent in oil that we failed to supply.



We see then that because we:

(1) Underestimated demand
(2) Lacked experience in accurate distribution
(3) Encountered the worst weather in a generation

we failed the public by a fraction of one per cent.

That isn't taking account of the splendid cooperation by the public and by every level of the oil industry. Without these, things would have been worse.

We're talking of course about regular oilburners in central heating plants. Kerosene for space heaters and stoves was tighter. Most of the hardship cases in large cities, that have been filling the newspapers, were space heater users, although they are always reported as "oilburners."

The price of oil has a bearing on the future outlook. Certainly at today's 12 and 13¢ levels, fueloil is attractive to the refiner. Perhaps it's only a coincidence, but when fueloil prices shot up at the middle of December, so did the fueloil per cent of the barrel of crude.

We mentioned that fueloil had been running 17% in the second half of the year. In December it was 18%, in January 21% and February thus far 22%. Two large majors are now running distillate fuel at 25 and 27%, respectively. None of us expects prices to be lower than 12¢ during 1948, so distillate fueloil will continue to be attractive to the refiner.

The effect of this winter's troubles, real or imaginary, on the public's opinion of the oil industry has not been too good. With Congress and several Gov-

ernment departments looking into the problem every day, the industry's top men are getting anxious.

Last week in New York the vice president of one of the largest suppliers stated simply but conclusively, "The oil industry can't stand another winter like this one." You may be quite sure that the industry will prevent a repetition of these troubles by more intelligent handling.

Oil men with an ear to the ground are coming to recognize that if the industry is to remain free of Government interference or domination it must supply first those products that the mass public wants—gasoline, lubricating oil, heating oil and farm fuels—and that if necessary other products must be restricted to achieve this. Some companies have already started cutting off other types of customers.

Some Government officials are stirred up again. This appears to be simply a recurrence of the alarms that have been sounded every few years throughout the history of oil. We must recognize the fact that the Administration wants discretionary allocation and pricing authority over basic commodities, and oil is the most likely ball carrier because of its wide publicity at the moment.

It is reasonable that the country should develop some shale oil refinery experience against the long future, and probably experiment with hydrogenation of coal in the same spirit, but the oil industry geologists and economists do not recognize a deteriorated situation now nor for many years ahead. A man who would probably be rated the leading authority on facts in the oil industry said last week, privately, "Yes, we know where the oil is—a great deal more than we're able to do anything about, but that's why we're being given first priority on steel this year, to get enough new wells under way."

And at $2.75 a barrel for crude, there's profit now in secondary recovery from old wells, as well as a powerful stimulant to original development, as steel comes into the fields.

What do these considerations add up to for 1948? The oil industry leaders will discuss this only in private because they don't want many new burners installed this month or next. The industry can handle about 12% more furnace oil customers next season than this—or probably 450,000 new oil users. If they should see the number starting to run much ahead of that, look for more unfavorable publicity later in the year.

In addition to about 450,000 new domestic oil users, oilburner dealers can also install a large number of replacements if they want to go after these sales. They do take some selling.

Replacement installations in December and January were over 15,000 each month, so probably 150,000 such sales for the year is not too much to expect. In that way, 1948 can see a total of 600,000 oilburners sold and without excessive loading of new fueloil demand. That will be the largest year in the industry's history, excepting only 1947. Naturally, this will take some selling, but when the winter is past and people realize that no one was seriously hurt and that only a few were inconvenienced, the desire to have oilheating as a part of accepted American living standards will again assert itself.

The oilheating man will continue to be anxious over the immediate fuel supply, until he gets his customers carefully shepherded through the remaining cold days, but he has little real reason for anything but optimism over the outlook for the following months.

Silver Anniversary Convention Largest in OHI Show History

Completion of the convention program late in February was the last act in the preparation for the Oil Heat Institute Silver Anniversary National Oil Heat Exposition, to be held at Chicago, April 5 to 8, 1948. Exhibit space has been completely sold out for months, though the exhibit floor and an annex constitute the largest space offering in Institute history. Convention sessions will all be held at the Palmer House, Chicago, the headquarters hotel, and the show will be housed in the Chicago Coliseum, a few blocks south of the hotel. Plans have been made for a record crowd from the oilheating and allied industries.

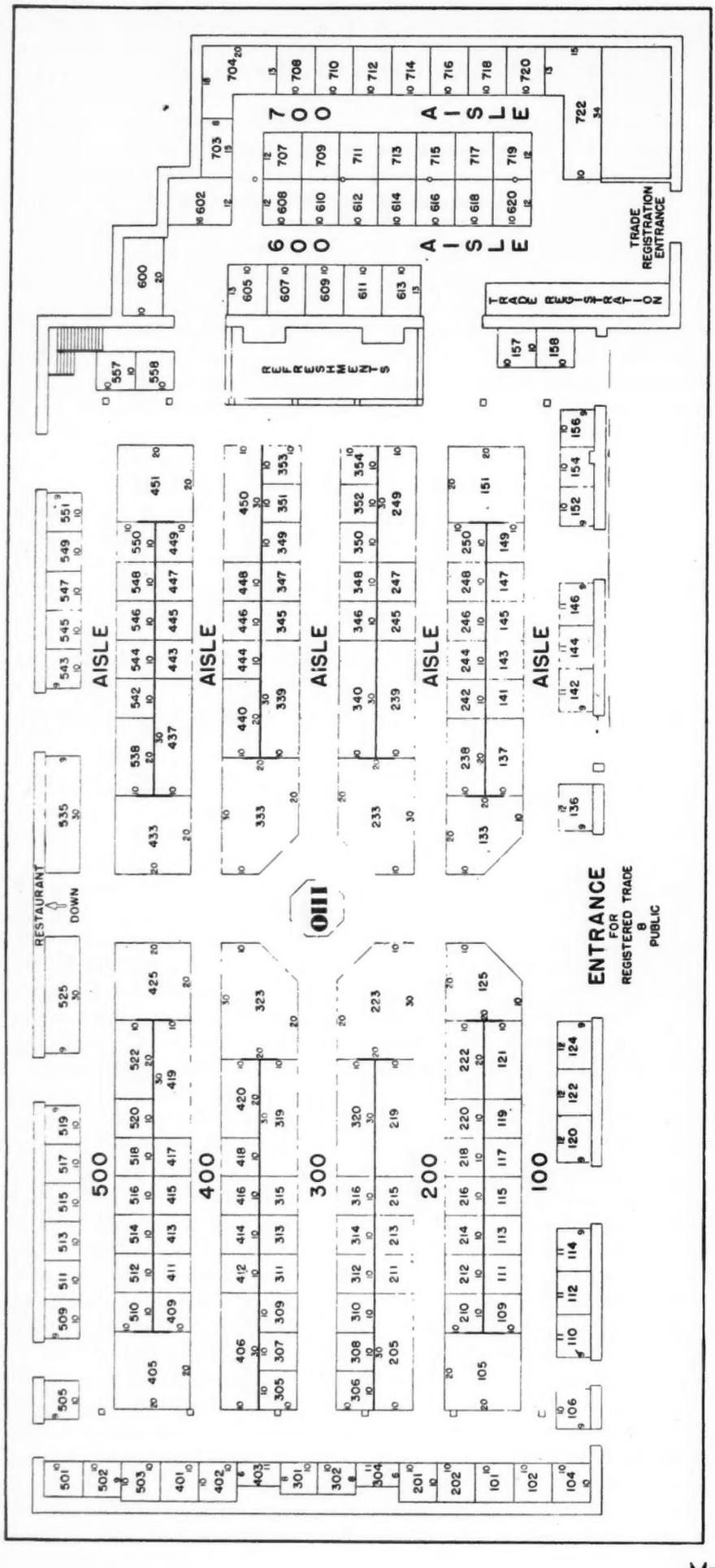
Mayor Martin H. Kennelly of Chicago is scheduled to open the exposition and Governor Dwight H. Green of Illinois will be present at a press conference on opening day. Congressman Thomas L. Owens will address a luncheon given by the OHI Accessory Division on the following day.

"This is an historic year for the oil burning industry—its twenty-fifth year of progress," Mr. Bohn said in an open letter to the industry. "I cannot state it better than to repeat what we have adopted as a kind of slogan. The Silver Anniversary National Oil Heat Exposition and Convention, which I cordially invite you to attend, will be your golden opportunity—the open door to the next 25 years of continued progress.

"It will be the largest and greatest exposition in the history of the oil burning industry. Although our second post-war show, it will be the first showing of truly post-war oil burning equipment. I particularly urge distributors and dealers to attend and see for themselves the great strides that have been made since the war—the new and improved equipment which will be unveiled emphasizing fuel and other savings."

All meetings and convention activities will be dovetailed into each day so as to interfere as little as possible with plans of industry members to attend the exposition.

The convention will feature "Exposition Opening Day" on April 5, "Insti-



Exhibitors

Silver Anniversary National Oil Heat Exposition

Exhibitor	*Space*
Ace Engineering Company	614
Air Controls, Inc.	412
Aldrich Company	249
American Artisan	245
American Mohawk Company	513-515
Anco Products Corp.	612
Anderson Tank & Mfg. Co.	136
Applied Mechanics Co.	502
Automatic Devices	312
Bacharach Industrial Instrument Co.	315
Robert Barclay, Inc.	620
Bell & Gossett Co.	409-411-413
Bethlehem Foundry & Machine Co.	238
Breese Burners, Inc.	509-511
Breuer Electric Mfg. Co.	715-717
The Brundage Company	445-447
Burning Oil Distributors Association	557
Central States Steel Boiler Co.	723
Century Engineering Corp.	437-443
Chicago Oil Burner Association	558
Cole Sewell Company	703
Columbia Boiler Co., Inc.	225
Commercial Filters Corp.	708
Conco Engineering Works	522
Consolidated Industries, Inc.	722
Delavan Engineering Company	111
Delco Appliance Division General Motors Corporation	141-3-242-4
DeSoto Oil Burner Corp.	704
Dielectric Products Co.	220
The Dole Valve Company	450
Domestic Engineering Company	145-147
Dongan Electric Mfg. Co.	110
Duo-Therm Division Motor Wheel Corporation	142-4-6
F. W. Dwyer Manufacturing Co.	152
Eckhart Manufacturing Company	339
Eddington Metal Specialty Company	538
Electrol Burner Mfg. Co., Inc.	512-514
Fairbanks, Morse & Company	610
Federal Boiler Co.	718-720
Field Control Division H. D. Conkey & Company	416-418
Fitzgibbons Boiler Company, Inc.	320
Fluid Heat Division Anchor Post Products	340
Fuel Oil News	548
Fueloil & Oil Heat	306-308
General Electric Company Apparatus Department	523-525
General Electric Company Air Conditioning Department	133
General Filters, Inc.	353
General Fittings Company	326
General Oil Burner Corp.	420
General Oil Heating Corporation	222
Gerstein & Cooper Co.	516
Guardian Products Corporation	350
Hajoca Corporation	613
Harvey-Whipple, Inc.	305 to 313
Heat Timer Corp.	605
The Heil Co.	425
Herco Oil Burner Corporation	347
HomEase Products Company	714-716
Independent Oil Burner Corp.	211-213
Industrial Corporation	544-546
Iron Fireman Manufacturing Co.	105
Jefferson Electric Company	520
S. T. Johnson Company	535
Jones & Brown, Inc.	711

Exhibitor	*Space*
The Kehm Corporation	618
The Kent Company, Inc.	608
Kewanee Boiler Corporation	101-2-4
King Chemical Co.	713
Kresno-Stamm Mfg. Co. (America), Inc.	120
The Lau Blower Company	446-448
Louis Engineering Co.	710-712
Lovejoy Flexible Coupling Company	444
May Oil Burner Division, Gerotor May Corporation	117-119
The Mercoid Corporation	346-348
Metromatic Mfg. Company	510
The Miller Company	210-212
Minneapolis-Honeywell Regulator Company	202 to 401
Monarch Manufacturing Works, Inc.	519
Morse-Smith-Morse, Inc.	247
L. J. Mueller Furnace Co.	405
McDonnell & Miller	345
Newark Transformer Co.	414
Norge Heat Division, Borg-Warner Corporation	246-8-250
The Ohio Electric Mfg. Company	214-216
Oil Equipment Laboratories, Inc.	109
Oil Equipment Mfg. Company	310
Penn Electric Switch Company	314-316
Perfex Corporation	419
B. A. Peterson Company	611
Petroleum Heat & Power Company	433
Pezzillo Pump Company	505
Plumbing and Heating Journal	518
Preferred Utilities Mfg. Corporation	125
Quaker Manufacturing Company	112-114
Quiet-Heet Mfg. Corporation	121
Radiant Utilities Corporation	503
Radiation Furnace Corporation	616
The Rajah Company	218
C. L. Rayfield Company	501
Refractory & Insulation Corporation	719
Rochester Manufacturing Co., Inc.	106
Ruby Management Co.	605
S.O.S. Products Company	527
Sampsel Time Control, Inc.	543
Scully Signal Company	157-158
Sid Harvey, Inc.	154-156
The Silent Glow Oil Burner Corp.	333
Staffco Engineering Co.	517
Standard Heater & Oil Equipment Co.	149
Stefco Steel Company	113-115
Stewart Hall Chemical Company	609
Sundstrand Engineering Company	440
Sundstrand Pump Division, Sundstrand Machine Tool Co.	137
Super Electric Products Corp.	600
Taco Heaters, Inc.	215
Thatcher Furnace Company	151
Timken Silent Automatic Div., The Timken-Detroit Axle Co.	449-451-550
Toridheet Division — Cleveland Steel Products Corp.	219
The Torrington Mfg. Company	352-354
Triad Products Corp.	607
Turrill, Inc.	707
Tuthill Pump Company	415-417
The Viking Manufacturing Corp.	545 to 551
Volcano Burner Corp.	709
Waterfilm Boilers, Inc.	122-124
Watts Regulator Company	542
Weatherell Engineers, Inc.	406
Webster Electric Company	205
White Rodgers Electric Company	349-351
Williams Oil-O-Matic Division, Eureka Williams Corporation	319-323
York-Shipley, Incorporated	233-239

J. W. Owens,
Chairman,
OHI Accessory
Division

R. S. Bohn
President, OHI

J. A. Collins,
Chairman,
OHI Distribution
Division

tute Day" on the 6th, "Burning Oils Industry Day" on the 7th, and "Dealer Day" on the 8th.

Dr. Robert E. Wilson, chairman of the board of Standard Oil Co. (Indiana) and President Thomas S. Holden of the F. W. Dodge Corp., will be among the speakers at the "Merchandising Session" on April 8, one of the principal convention sessions. On the same program are C. M. Daniels, general sales manager of Bethlehem Steel Co., and W. A. Matheson, vice president, Eureka Williams Corp., Williams Oil-O-Matic Division. J. A. Collins, chairman of OHI Distribution Division, will preside. Mr. Wilson will talk on "Burning Oils," Mr. Holden on "Housing in 1948," Mr. Daniels on "Steel Availability in 1948" and Mr. Matheson on "Equipment Merchandising in 1948."

A forum session will follow, with a panel including Chairman Collins; J. W. Owens, Chairman OHI Accessory Division; R. S. Bohn, president OHI, and Frank Faust, chairman OHI Engineering Committee.

The other principal convention session will be the "Industry Session" on the morning of April 7. Stephen P. Cauley, Socony-Vacuum Oil Co., will talk on "Effects of Revised Specifications on Distillate Fuel Oils" with E. B. Delgass of the same company co-author. A. T. Atwill, president, Quaker Manufacturing Co., will speak on "Vaporizing Equipment in 1948" and Fred Hainer, vice president, Cleaver-Brooks Co. on "Package Steam Units." Other speakers will be C. R. Welborn, executive vice-president of Underwriters' Laboratories, who will speak on "The Laboratories' Place in Industry"; E. F. Groves, general sales manager of Petroleum Heating & Power Co., covering "Residual Oil Burning Equipment," and W. S. Quimby of the Technical Research Division of The Texas Co., who will talk on "Laboratory Activities."

Business Meetings

There will be important business meetings of directors and members of OHI and its divisions. OHI directors will meet Monday morning, April 5.

Wilson

Holden

The annual meeting of the Accessory Division will be held Tuesday morning to hear the reports of J. W. Owens, chairman and Paul Addams, vice-chairman, and for the confirmation of seven nominees to the board of directors of OHI of America. The annual meeting of the Distribution Division also will be held Tuesday morning to hear the reports of J. A. Collins, chairman, and A. E. Whitehill, secretary, and for the confirmation of seven nominees to the board of directors of OHI.

All these meetings will be concluded

by 10:30 A.M. so that there will be full attendance at the important annual meeting of Oil-Heat Institute of America which will open at that time. President Bohn will preside.

Constitution Change Presented

A change in the OHI constitution will be presented to the membership for approval at this meeting.

Daniels

Matheson

"If adopted as anticipated," A. E. Hess, managing director of OHI stated today, "the activities of OHI will broaden so as to be of interest to every segment in the oilburning industry including the producers of burning oils. The change includes a new division, the activities of which will be keyed to a laboratory to be set up for the study of standardizations and for investigating various phases in the art of oilburning and the use of liquid fuels.

"The Institute structure would be changed under the new Constitution from the horizontal structure of the past

Cauley

Welborn

25 years to several vertical segments, each containing the elements of the industry interested in the activities of each vertical section. No change is anticipated in the number of members on the executive committee, board of directors or elected officers of the Institute."

At the annual meeting the annual report of the president to the membership also will be heard, as well as that

Program

Silver Anniversary National Oil Heat Exposition

Exposition: Chicago Coliseum—All Meetings: Palmer House

MONDAY, APRIL 5, "OPENING DAY"

10:00 AM — Room 9, OHI Board of Directors quarterly meeting.
12:00 N to 10:00 PM — Registration at Coliseum.
1:00 PM — Coliseum — Exposition opens.
10:00 PM — Exposition closes.

TUESDAY, APRIL 6, "INSTITUTE DAY"

9:30 AM — Room 9 — Annual Meeting, OHI Accessory Division; J. W. Owens, Chairman.
9:30 AM — Red Lacquer Room — Annual Meeting, OHI Distribution Division; J. A. Collins, Chairman.
10:30 AM — Red Lacquer Room — Annual Meeting, Oil-Heat Institute of America, President R. S. Bohn, Chairman.
12:00 N to 10:00 PM — Registration at Coliseum.
1:00 PM — Coliseum — Exposition opens.
1:00 PM — Room 18 — New Board of Directors luncheon meeting.
2:30 PM — Room 14 — Ladies entertainment.
10:00 PM — Exposition closes.

WEDNESDAY, APRIL 7, "BURNING OILS INDUSTRY DAY"

9:30 AM — Red Lacquer Room — Industry Session (Everyone welcome.)
Speakers: Stephen P. Cauley, Socony-Vacuum Oil Co.
"Effects of Revised Specifications on Distillate Fueloils," with E. B. Delgass, co-author.
C. R. Welborn, executive vice-president, Underwriters' Laboratories.
"The Laboratories Place in Industry"
E. F. Groves, general sales manager, Petroleum Heat & Power Co.
"Residual Oilburning Equipment"
A. T. Atwill, president, Quaker Manufacturing Co.
"Vaporizing Equipment in 1948"
Fred Hainer, vice-president, Cleaver-Brooks Co.
"Package Steam Units"
W. S. Quimby, Technical Research Division, The Texas Co.
"Laboratory Activities"
12:30 PM — Ball Room — OHI Accessory Division luncheon.
12:00 N to 10:00 PM — Registration at Coliseum.
1:00 PM — Coliseum — Exposition opens.
1:30 PM — Room 14 — Ladies entertainment assembly.
10:00 PM — Exposition closes.

THURSDAY, APRIL 8, "DEALER DAY"

9:30 AM — Red Lacquer Room — Merchandising Session (Everyone welcome.)
Speakers: Thomas S. Holden, president, F. W. Dodge Corp.
"Housing in 1948"
Dr. Robert E. Wilson, chairman of the board, Standard Oil Co. (Indiana)
"Burning Oils"
C. M. Daniels, general sales manager, Bethlehem Steel Co.
"Steel Availability in 1948"
W. A. Matheson, vice-president, Eureka Williams Corp., Williams Oil-O-Matic Division
"Equipment Merchandising 1948"
After the speakers are heard, a forum session will be held with a panel including the speakers and the Chairman J. A. Collins; J. W. Owens, Chairman OHI Accessory Division; R. S. Bohn, President OHI; and F. H. Faust, Chairman OHI Engineering Com.
12:00 N to 5:00 PM — Registration at Coliseum.
1:00 PM — Coliseum — Exposition opens.
5:00 PM — Exposition closes.
6:30-7:00 PM — Red Lacquer Room — Industry Cocktail Hour.
7:30 PM — Ball Room — Silver Anniversary Banquet & Entertainment.
11:00 PM — Red Lacquer Room — Dancing to 1:00 AM.

of the secretary-treasurer. The election of the new 1948 board of directors also will take place.

Immediately following the OHI annual meeting, the newly elected board will retire and act on the election of officers for the new fiscal period.

Silver Anniversary Banquet

Members of the oilburning industry and their ladies are cordially invited to the OHI Silver Anniversary Banquet,

Atwill

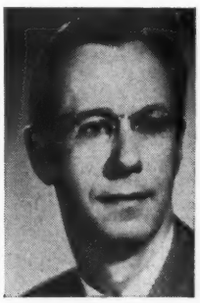
Groves

Entertainment and Dance which will be held at the Palmer House on Thursday evening, April 8. OHI will honor all living past presidents still within the industry. The head table will be given over to these honored guests, together with the elected officers of the Institute and their wives.

E. P. Bailey, president of the National Airoil Burner Corp., will act as toastmaster. Mr. Bailey was the first manufacturer member elected president of the Institute, serving in 1924.

Talks will be brief as the evening will be devoted to entertainment. Music for

Quimby



Hainer

the entertainment will be supplied by "Cee" Davidson and his Edgewater Beach Hotel Orchestra. Master of Ceremonies Phil Baker, internationally known comedian and radio entertainer, will conduct a show of seven outstanding acts. Dancing will follow the banquet, and will conclude the Silver Anniversary Convention.

When We Were Young

Some Industry History and a Prediction

by

Leod D. Becker

IN THIS RATHER RANDOM record I mean to tell briefly the story of the meeting that started the first and only national oilheating association, about to celebrate its Silver Anniversary. Then to venture some opinions about the future.

After six months of letter writing, telegraphing, telephoning, and personal interviews, with Galesburg, Ill., as my base, 20 men answered my invitation to meet in the Rose Room of the Congress Hotel, Chicago, on September 6, 1923. About 12 burner manufacturers signed the "roll call," if memory serves me. A few others were there, as observers, I was told.

Selling Surplus Product

They were hard working, intelligent men, with many painful problems. You must remember fueloil was a waste product. There were few specifications and those seldom used. Heating oils were mostly anything that came through the refinery condenser between kerosene and lubricating oil.

Inter-industry competition was bad. There were many patent "cold wars." Competition from the coal industry was vicious, and it was occasionally worse from gas. Architects and engineers were often suspicious, when not openly hostile. Builders hardly knew oil was used for residential heating.

Most of the men at that first meeting, I believe, are gone from the industry or from this earth. God rest their spirits! Many are now legendary when old timers gather; all are affectionately remembered: Wallace Capen, of St. Louis and Electrol, and his lawyer friend Roy H. Britton; J. H. (Jake) Hirsch, A.B.C., Chicago; J. P. (Jack) Leask, of Peabody Engineering Co., New York; W. T. Dean, Chicago; B. F. Geyer, of Wayne, Ft. Wayne, Ind., and beloved, L. H. Van Ness, of Mercoid, Chicago, are among those whose work, during and immediately before the meeting, I remember most vividly.

G. K. Franklin, Bloomington, Ill., then salesmanager of Oil-O-Matic, Henry D. Mackaye, Chicago, a pioneer "development engineer" and Mr. Rhodes, Chicago, then an executive with Kleen-Heet, were there and took part in the work.

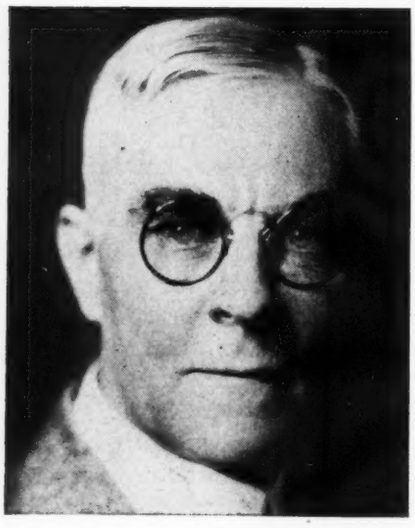
Re-reading the stenographic minutes of that meeting the other day, reminded me of the almost dedicated earnestness with which they worked. I have never seen men who knew better how to blueprint the processes of overcoming opposition. They were close to being wonder workers.

For five years following that meeting, A.O.B.A. and the Institute performed a series of minor miracles and did the ground work for the surprising consumer demand of 1947 and 1948.

Edward P. (Ed) Bailey, president, National Airoil Burner Co., Philadelphia; Harold W. Sweatt, president, Minneapolis Honeywell Regulator Co., Minneapolis, and Willard Huff, now executive vice president of the same company—then secretary-treasurer of the Honeywell Heating Specialties Co., Wabash, Ind.—are, with me, the only survivors still active in the industry, I believe. Each made special and timely contributions to the small beginning of the presently flourishing Oil Heat Institute.

I may be wrong about this list of active survivors of the charter meeting. There were no photographers in the Rose Room during the proceedings, although the official hotel photographer volunteered his services. If I err in limiting the active survivors to four I hope the readers of my favorite magazine will write or speak to me, (gently, I'm getting old), during the big Silver Anniversary celebration in Chicago next month.

The number of survivors of the First Convention and Show, at the Hotel Chase, St. Louis, April 1 to 3, 1924, is much larger. Good photographs of that



E. P. Bailey

H. W. Sweatt

W. L. Huff

meeting and of the exhibits exist. While many are yet available to give eye witness testimony and check the facts, a qualified historian should be put to writing the record of that meeting.

Nothing can ever quite recreate the surprise and starry-eyed enthusiasm of the gathering; everybody, including the exhibitors, had come wondering if he'd find anybody there except some of the officers and a few dealers from the St. Louis trading area. But the men who had been at Chicago six months earlier, aided by a potent little magazine, "Fuel Oil," published at Galesburg, had spread the gospel. East, mid-West, and Pacific Coast met and mingled for the first time in the industry.

A total of nine burner manufacturers exhibited at that first show, held on the hotel roof. Others had models in their rooms, I believe. A grand total of 30 exhibit booths were filled by about 26 exhibitors. Between four and five hundred members of the industry visited the exhibit during the three days. It was not open to the public.

E. P. Bailey was elected president for the first full year term, '24-'25; C. H. (Uncle Charlie) Chalmers, Minneapolis, succeeded him for the '25-'26 term, being elected at Chicago, at the second annual conference and show held in the Edgewater Beach Hotel, Chicago, in April '25. Lionel Jacobs, then of Toronto, Can., now of Philadelphia, followed as president for the two succeeding terms, '26-'28. At the Hotel Stevens, Chicago, where the 1928 meeting and show were held, J. C. Johnson, of the S. T. Johnson Co., Oakland, Calif., was elected fifth president. Fortunately, for the industry and the Institute, all five of these pioneer presidents still actively head their firms.

It has been a great experience to grow with this industry. We are in the midst of another crisis. My thirty years in the oil and oilburner industry has been a long series of crises, with only an occasional breather.

I've been studying some industry figures recently. Figures can pack a terrific wallop. In the first two full post war years, we have done half as much as the industry did in its first twenty!

Barring an atomic war, I believe we will more than double the results of the first twenty years by 1951. In three years; think of that! It seems balmy at the moment, but based on the figures, and personal seismic seizures, I expect to see the industry pass its first 1,000,000 sales year in domestic basement burners within the next five years.

Leod D. Becker

The Oil Heat Institute, its officers, directors and members, will largely determine what results we get, and the records we make, in the near-term future.

To paraphrase an old friend and former General Counsel of the American Petroleum Institute, the late Bob Welsh; the vexed and much debated question of what oil should be used for, and what are its superior uses, is primarily the consumer's problem. An economist says that by price the consumer casts his economic vote.

The commodities of the world are candidates. Each has its manifold uses. The consumer, by price, elects goods to their proper offices. A commodity adapted to being town crier is never elected mayor. Knowing his own mind, and with unerring judgment, the consumer pursues through price, the economic initiative, referendum and veto.

He votes every minute. He changes his politics hourly. Commerce is democracy and democracy meets each day as it did at Athens. Its constitution, its law, its legislative and its judicial power are all made, interpreted, and enforced by a single ballot—price.

Of course, if the conditions surrounding the production and consumption of liquid fuels are to be effected by changes in laws, the thing most apparent is that no changes will be made unless they are such as meet with the consumer's approval.

As near as one can forecast the future, it seems that the comfort and con-

venience of oil heat will stay with us as long as people are willing to pay for, and use extensively, high-powered automobiles.

The only worth while opinion about the future is one on which a man would himself act. I'm starting now to install a basement oil burner in an eighty-year-old house which never had central heat. This short industry history points up to one significant conclusion—admittedly my own: there are about two million consumers who are ready to buy regular domestic oilburners before the end of 1949. Short of war, they will probably do it, too.

OHI Booklet Answers Questions About Oil

"ANSWERS—your questions about burning oils" is the title of an information booklet prepared by Oil-Heat Institute of America, Inc., New York 16, N. Y., and offered for sale at cost to distributors, dealers and manufacturers for distribution to users of oilburning equipment. Recognizing that it has been difficult for the public to sift the conflicting hopes, suppositions, facts and figures that have been circulated on the fueloil supply situation, OHI has assembled in question and answer form, incontestable facts, beginning with crude reserves, through to the delivery of refined product to users. "ANSWERS" quotes only from industry and government sources generally recognized as reliable.

Commenting on the need for the booklet, A. E. Hess, Institute managing director, says, "It is regrettable that the thoughtful, accurate comments of a few top executives in the oil industry were buried by the avalanche of generalized and frequently inaccurate comments on the subject. It is in the public's own best interests that their impressions on this vital topic be removed from the category of uninformed opinion."

The booklet poses twenty-nine questions and then supplies authoritative answers, quoting the source of information wherever possible. It opens with a group of six questions on crude oil supply, presenting information on production, new wells, proved oil reserves and a comparison between imports and exports. Succeeding sections deal with refining capacity, oil transport and oil demand, with particular emphasis on how and why the demand has increased. The middle section of "ANSWERS" contains small pictures of various types of burners, boiler and furnace units, water heaters, wall and floor furnaces, with a brief explanation accompanying each to show where and how it is used. Two important concluding sections discuss the actual shortages and measures being taken to overcome them. It points out that shortages occurred entirely in transport means and reviews the four billion dollar program the oil industry is undertaking to expand facilities.

It is planned to distribute copies of the booklet to the oilburning public through OHI members and their outlets. Copies will be furnished in lots of 100 or more at cost ranging from 2½ to 3½ cents, depending on quantity. The back cover is blank so that dealer, or other imprint, can be added to make the booklet a self-mailer, or stuffer for No. 10 envelopes.

Sample copies and order forms are available from Institute headquarters, 6 East 39th St., New York 16.

Oil Industry Committees Examine Future Supplies

THE PETROLEUM INDUSTRY has launched a worldwide investigation into the availability of petroleum products for consumption in the United States for both immediate and future needs, President William R. Boyd, Jr., of the American Petroleum Institute has announced.

The subcommittees of the Institute's National Oil Policy Committee will make the studies. The first is instructed to "prepare and to present to the main Committee as soon as possible a study based on the best available data of the quantities of various petroleum products available for consumption in the United States during the remainder of the current year and next winter's heating season." The subcommittee will be headed by Howard W. Page, Standard Oil Co. (New Jersey), New York.

The second subcommittee has a similar assignment, but on a long-range basis. It is instructed to study the quantities of oil available for consumption in the United States over a period of the next ten to fifteen years. This group will be headed by L. F. McCollum, Continental Oil Co., Ponca City, Okla.

In addition to these committees of the Institute, appointed by the chairman of the National Oil Policy Committee, A. Jacobsen, Amerada Petroleum Corp., New York, Mr. Boyd announced that he had invited the presidents of six other oil trade associations to designate suitable personnel to participate in the discussions and collaborate in the report of Mr. Page's committee and to participate in the discussion and report of Mr. McCollum's group.

"Mounting demand for petroleum products has given rise to a great deal of public apprehension as to both the short-range and long-range availability of petroleum products for the people of the United States," Mr. Boyd said.

"The alarmed prediction that 'we are running out of oil' with which this industry has been confronted since 1860 again is abroad in the land. The uninformed are even setting dates upon which we will run out of oil.

"There is no question that the nation's position in regard to the availability of liquid fuels deserves close attention. These committees, composed of the best-informed men in the business, will attempt to evaluate, based upon all data at their command, the exact position of the United States in this regard.

"Their findings will be authoritative. They will constitute a report to the nation of everything the American petroleum industry knows on the subject."

Page Committee Named

Members of the subcommittee on immediate needs are: Howard W. Page (Chairman), Standard Oil Co. (N. J.), New York; John W. Boatwright, Standard Oil Co. (Ind.), Chicago; Austin Cadle, Standard Oil Co. of Calif., San Francisco; J. E. Dyer, Sinclair Refining Corp., New York; R. J. Gonzalez, Humble Oil & Refining Co., Houston; Edward T. Knight, The Atlantic Refining Co., Philadelphia; Albert J. McIntosh, Socony-Vacuum Oil Co., New York; Robert N. Sears, Wasatch Oil Co., Salt Lake City, and Fred Van Covern, American Petroleum Institute, New York.

Starting A New Burner

Man Who Starts Burner is Responsible for Proper Operation

by
J. W. Schulz

THE MAN WHO STARTS a newly installed burner must, to live up to his responsibility, take every step needed to permit him to say finally to the burner owner, "Your burner is ready for use. It will perform the way it's supposed to."

An installation crew may make mistakes, and equipment which falls short of being perfect may be installed, but before the installation is turned over to the owner it should be put in condition for dependable, comfortable, quiet, and economical operation.

Excellent service work at the time of start-up wards off chances of the owner's complaining within a week about such things as noise, fuses blowing, flame pulsation, stopping "on safety," bumpy or insufficient heat, and oil spots on the basement floor.

To view the situation correctly, a burner dealer who has separate installation and service departments does not send out a service man to start up a new burner. He sends out the man to make a final inspection of the entire installation, to start and tune the burner, and to do whatever must be done to arrive at dependable and efficient operation.

Held fully responsible in this way for the satisfactory performance of newly started burners, a service expert properly has a grievance against his employer if on a particular installation good results cannot be obtained even with a demonstration of the best in service work. Good service work obviously cannot make up for installing the wrong type or size burner for a given furnace or boiler, or oil-firing an unsuitable plant and obtaining 900° stack temperature, or building a firebox incapable of efficient combustion. In many instances burner dealers have turned to improved sales tactics, job-planning, and installation work as the result of recommendations made by the service men they employ.

In a certain company where for years the service department has been held fully responsible for the proper operation of every installation, no contract to install a burner is made until the service manager inspects the house and the heating plant and gives the sales department a written okay to accept the order for the burner. Having the authority to stop the sale of burners to owners of heating plants which cannot be oilfired satisfactorily, the service department can be held responsible for the satisfactory operation of all the burners it starts.

Take Nothing for Granted

Arriving to start a new burner after the installation crew has finished its work, a good service man cannot assume that there are no shortcomings in the installation work or in the equipment. He can't assume a thing. But he must make sure before he leaves that everything is all right.

Suppose that oil has been delivered and the burner is ready to start. Before it can be fired, a pressure burner must be fitted with a nozzle of the proper gph rate and spray angle. The service man's first step, therefore, usually lies in removing the gun tube assembly from the burner and installing the proper nozzle.

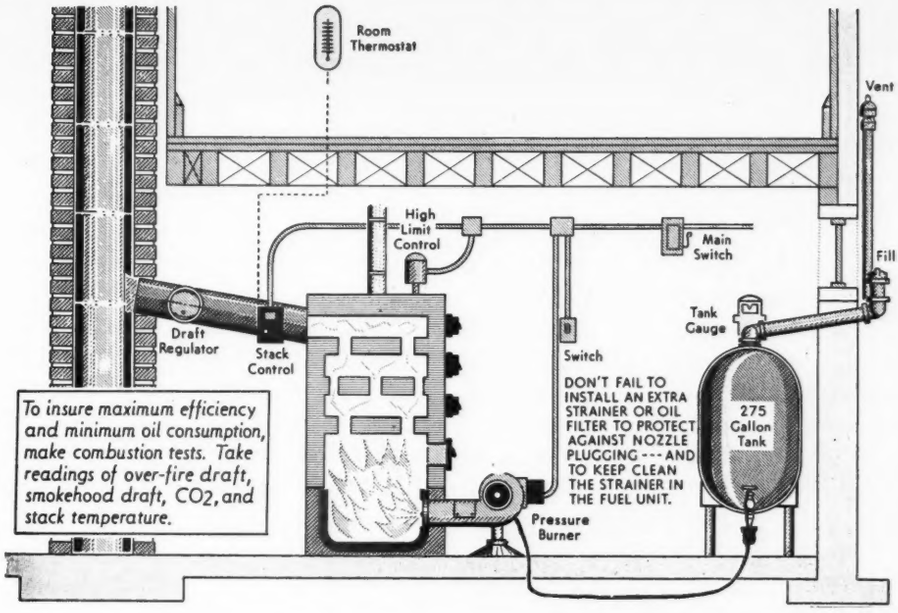
Working for a dealer who plans his installations properly, a service man arrives on a new installation informed regarding which size and angle of nozzle should be used, since in the planning of the installation the gph rate had to be decided before the firebox was designed. Someone in the dealer organization decided which size and type of firebox would be installed; that same man passes word along to the service man regarding which nozzle should be used to fit the firebox and the heating load. If 100 lbs. atomizing pressure is not to be used, the service man needs information on which pressure to use. Certain dealers instruct their service men to use atomizing pressures lower than 100 lbs. for burners which carry exceedingly light heating loads.

If he is not told beforehand the nozzle capacity and angle for which the firebox was engineered, a service man naturally sizes up the firebox, measuring its size if necessary, and aims to install a nozzle of gph rate and angle to fit the firebox. Since for all practical purposes the markings on nozzles can be considered only approximate (because oil viscosity and nozzle temperature are different on different installations, and this affects nozzle output and spray angle), an expert always is prepared to try out three or four nozzles in order to obtain maximum results. This applies particularly where problems arise regarding quiet burning and freedom from starting and stopping pulsation. The firebox may be designed for 100 lbs. atomizing pressure on a 1.75 gph nozzle of 60° spray angle, for example, but it may work out that the best results are obtained from using a 2.0 gph, 80° nozzle together with 80 lbs. atomizing pressure.

When to Use Strainer

For low gph nozzles, always use a nozzle strainer. But don't use a nozzle strainer where the gph rate is so high and the nozzle oil passages are so large that the strainer has a greater tendency to plug than the nozzle has. Different experts and different nozzle manufacturers disagree about where to draw the line on using nozzle strainers, some saying that below 4.0 gph a nozzle strainer should be used and others saying below 5.0 or 6.0 gph the strainer should be used. To play safe, obtain dependable data on this from the manufacturer of the nozzles which you use.

Tighten the nozzle well in the nozzle adapter to avoid an oil drip inside the gun tube, then proceed to the very important step of checking the setting of the spark points. The tips of the spark points or electrodes must be close to the oil spray from the nozzle, yet not in the spray. If the tips are too far from the oil spray, the spark will not ignite the oil promptly, even while it is extended forwards hairpin-shaped by the air from the blower. Delayed ignition or ignition failure may be the result. On the other


Room Thermostat
Vent
Fill
High Limit Control
Main Switch
Draft Regulator
Stack Control
Tank Gauge
Switch
DON'T FAIL TO INSTALL AN EXTRA STRAINER OR OIL FILTER TO PROTECT AGAINST NOZZLE PLUGGING --- AND TO KEEP CLEAN THE STRAINER IN THE FUEL UNIT.
275 Gallon Tank
Pressure Burner
To insure maximum efficiency and minimum oil consumption, make combustion tests. Take readings of over-fire draft, smokehood draft, CO_2, and stack temperature.

Final Inspection, Tune-Up, and Testing of A New Installation

Main items include:

- ☐ 1. Wiring and controls
- ☐ 2. Oil tank and piping
- ☐ 3. Nozzle, ignition system, and gun tube parts
- ☐ 4. Motor, fuel unit, and all vital parts of burner
- ☐ 5. Combustion, efficiency
- ☐ 6. Heating system output and performance with on-off firing
- ☐ 7. Instruct burner owner
- ☐ 8. Quick check-back within about 30 days

Objective: Oil heating which is *A. Dependable, B. Comfortable, C. Quiet, D. Economical*

hand, adjusting the tips to be too far forwards will cause oil to strike them. Carbon will form on the tips, the spark will be short-circuited, and ignition delay or failure will follow. Although burner experts with years of experience may not need instruction sheets when setting the spark points of typical pressure burners, the safest course is to obtain and follow the manufacturer's instructions for setting the spark points of a particular burner model. One burner manufacturer, for example, finds that for most dependable ignition, different spark point settings must be used for each of his different burner models. Because improper setting of the spark points is the most important cause of the "starting puffs" which must not occur if an owner is to have confidence in his burner equipment, a service man cannot be too careful in setting the tips properly.

While he replaces the gun tube assembly, the service man is careful to make the proper high tension connections between the gun tube parts and the ignition transformer, and to check for possibilities of loose connections or short circuits which could cause ignition failure later.

The dealer policy dictates whether the service man will use a fuse or Fusetron or Fustat for the oilburner circuit. Having tended to that detail, the service man is ready to start the burner motor by turning on any open switches and, if necessary, setting up the room thermostat or any other control which must be adjusted for starting. The service man notices at this point, usually, that seemingly the wiring has been done properly to the degree of permitting the burner to operate, and that the burner motor runs properly; later he will check in detail on the wiring and controls, and give more detailed attention to proper starting and running of the burner motor.

If at this point the burner motor refuses to start, a check-up of the stack control panel is in order. When in the "hot stack position," certain panels must be "set cold" manually before the burners can be started. If failure to start is caused by other defects, diagnosis of the electrical trouble with the help of some kind of testing device (a pigtail lamp socket and an electric light bulb serves well for this) should be started. Find out if (1) the input terminals of the stack control panel receive electricity, (2) the motor terminals of the panel test "live," and (3) the lamp lights when connected in parallel with the burner motor, at the motor.

It's a wise plan to make certain on every new installation that the motor and pump shaft can spin freely. For an early check-up on this, try to turn the blower wheel by pushing it with one finger. To check later, observe whether or not the motor snaps up to speed quickly when started, and how long the blower spins after the motor has been turned off.

With the burner motor ready to run, as determined by closing the burner switch once or twice to give it a run or two, the next step is to prepare for firing the burner. Open wide the firing door or flame observation door of the furnace or boiler. Besides permitting you to see the flame the moment it lights, this gives protection in case oil sprays into the firebox for a few seconds before lighting. Open the air damper on the burner sufficiently for clean burning from the start. Check roughly on any adjustments for the positions of air-handling parts in the gun tube of the burner, endeavoring to set these in positions which match at least roughly the characteristics of the particular installation. Remove the proper pipe plug from the fuel unit of the burner, and screw in a pressure gauge for up to 150 lbs. pressure, to read the atomizing pressure. Don't tighten the gauge yet.

To start the burner and obtain a flame, you run the burner motor, now, and at the same time permit air to escape from the fuel unit by loosening somewhat the pressure gauge which you applied to the fuel unit. It's easy to tell when you've unscrewed the pressure gauge sufficiently to start air-ridding the burner, for a foam of fueloil and air escapes in a steady stream from the gauge connection when you have loosened the gauge sufficiently. Keep wiping up this oil foam with a cloth while you air-rid the burner, to avoid a spot on the basement floor and oil odors in the house. When the needle of the pressure gauge makes a move up to about 25 lbs. pressure, you can start tightening the gauge. This will avoid spilling considerable oil after the pump develops atomizing pressure.

Usually an inside-tank installation can

(*Continued on page 186*)

South Carolina Spring

As February Ends, Oil and Burner Men See That They Made It

by
Robert Gray

IN THE LAST ISSUE of the magazine was a North Carolina story telling of visits with a dozen fueloil marketers at the close of January. They were then in the midst of their worst supply troubles and their operating hardships made unhappy reading.

At the close of February another visiting excursion was made to the sister state to the south, and with spring on the threshold both burner and oil men were more or less surprised that they had come through the cold days alive. They shook themselves, looked around and realized that no one froze.

Among the six companies visited in three South Carolina cities, three were fueloil men and three specialized in oilburners. No one of the three oil companies had found it necessary to let a single centrally heated home go cold during the winter, although they had been expecting daily to freeze some of the folks before nightfall.

Homes with central heating plants had been favored, however, throughout the state. The space heater users had been out of oil in important numbers. Also, other users of distillate fuels had gone without in order to protect the favored homes. For example, a negro college that had been using 3,000 gallons a week of No. 2 fuel closed some buildings, condensed the classes into other buildings and held minimum temperatures—all of this voluntarily—to save oil for homes.

South Carolina could have expected considerably worse troubles than some states because its growth in oilburners was 52% in 1947, compared to the national average of 27%. On the other hand, its total number of burners operating is relatively small (11,000 at the end of the year) and the state averages only around 2,500 degree-days normally, with the result that the emergency steps taken carried a lot of weight. A few thousand barrels of diesel fuel borrowed from the Navy could prevent a lot of distress.

Then a number of companies sacrificed No. 1 oil or kerosene to protect No. 2. There are reports of a few companies having blended No. 2 and kerosene 50-50 and selling the blend to central heating users at kerosene prices. Again, some major suppliers in putting their marketers on allocations permitted them so many total gallons, without specifying product, which allowed some fueloil distributors to take it all in in No. 2 if they chose, thus dropping kerosene customers. So in one way or another, consumers with regular oilburners had their needs fully met.

No. 2 oil in Columbia, the capital and centrally located city of the state, sells at 13.1¢, with an established margin for fueloil distributors of 2.4¢. However, some marketers who are traditionally spot buyers are working with margins of around a cent, because they cannot buy today at posted tank car levels. Tank car price premiums are adding as much as 1.6¢ to costs, which drops the margin to 8/10¢. It goes without saying that spot buyers in earlier years had enjoyed larger than normal margins, which is why they chose to be spot operators, but nonetheless the struggles of this winter were hard to take without any chance for profits.

Oilburner salesmen for years have claimed that the spring and fall seasons are the times when fully automatic heating clearly proves its ultimate value. It is then that coal firing is most troublesome, because to keep the fire alive the home is often kept too hot . . . or else the householder has the trouble of frequently starting a fire. In South Carolina much of the heating season would correspond to spring and fall days of the northern states. Nights are quite cold but the days are on the whole decidedly warm. Thus, automatic firing during only the needed hours is ideal, with the burner usually not operating for several hours of the day.

Gas throughout the state is too costly to be used for heating, so oil is the natural choice. That accounts for the present high growth rate in total burners operating, and of course space heaters have been going in even faster than that. For example, Charleston, the state's chief seaport, is nearly 90% oilheated. With about 15,000 homes in the city, 1,500 of them have oilfired central heating plants and most of the balance have oil floor furnaces or space heaters. Wartime housing projects, one of them with 3,000 units, all installed space heaters.

One factor that holds back central heating installations to some extent is

Tanks for space heaters *in five sizes and three shapes, to fit the available space on installation, and also to fit the size of sheet steel that the manufacturer had on hand when the order arrived. Alex Wier, Charleston Oil's general manager, who is currently conducting a drive for larger tanks, pointed out that the stenciled words near the bottom of each tank instruct the consumer not to order fuel until the indicated line is reached.*

the absence of basements. This means that to sell an oilburner a complete heating plant must be sold, and also an excavating job done. Lenaire Wolfe, Esso burner dealer at Orangeburg, put in 60 oilheating jobs last year and on nearly all of them had to first excavate for a basement.

Local ordinances in most of the cities of the state prohibit the installation of tanks to store more than 110 gallons of oil above ground, or 275 gallons within a building. Any inside storage must be completely buried with earth, or in some cities concrete.

As a result, in most cities away from tidewater it is customary to install a 550 or 1,000 gallon buried tank outside. That practice helped to ease the supply troubles this winter. In Charleston, however, because the ground water level is near the surface, buried outside tanks are impractical.

Charleston Oil Co., largest fueloil marketer in the state, is starting a campaign to get larger storage in its customers' thousands of outdoor tanks. Hundreds of its customers, with only one or two drum storage capacity, have been requiring four to six drops a month, averaging small quantities. Selecting all customers who had received more than four drops in February, the company wrote them a form letter, first thanking them for their patience through the season, and then urging that in their own interest they install a larger tank this summer.

The company has five sizes of tanks for space heater or floor furnace accounts, in three shapes to best suit the individual location. As shown in the photo these run from 140 to 220 gallon capacities and sell for between $24 and $30 to the consumer. For a few dollars more a wood or metal stand is provided. Alex Wier, the company's general manager, believes that this is the perfect season to get larger storage and consequent large drop sizes for future years, while customers are concerned about getting in position to better control their own supplies. The principal problem in this connection is what to do about renters. Many of the homes with space heaters are rented, and landlords won't buy larger tanks. No solution has yet appeared.

A good many of the modern new five or six room houses through the central part of the state have basements, particularly in the Columbia area, and a lot of these require as little as 700 to 800 gallons in a normal season. If they have a 1,000 gallon tank they get their whole year's supply at once. In selling new installations this spring, the 1,000 gallon tank idea seems to remove any doubts that the prospect may have over future oil supply, according to J. R. Kimball, Home Heating and Appliance Co., Columbia's Oil-O-Matic dealer. They can readily understand that if the tank is filled in summer when fueloil demands

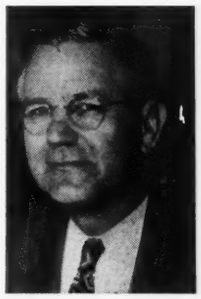
(Continued on page 182)

Fueloil & Burner Men of South Carolina

W. L. Heinz, *president Central Oil Co., Columbia, and Secretary of the South Carolina Oil Jobbers Association. Heinz directs the public relations program of the state oil group, since the Association is not tied in with the A.P.I. public relations activity.*

P. B. Kortjohn *and* **Fred W. Herlihy,** *respectively secretary-treasurer and president of Power Oil Co., Orangeburg. Herlihy also heads five other local corporations, including one selling farm machinery. Probably the most active among the state's oil men in national oil industry activities, he was during the war a member of P.I.W.C., is now a member of API's Agricultural Development Committee, and a director of the National Oil Marketers' Assn.*

B. F. Kimball, *Kimball Heating & Metal Works, Columbia. Selling G-E burners for 17 years, Kimball has 1,500 jobs operating in a 70 mile radius. Because most oilheating installations include complete plants, Kimball features split systems in his work.*



W. A. Wier *and* **T. W. "Buddy" Thornhill,** *respectively general manager and president of Charleston Oil Co., the state's largest fueloil marketer. The company operates four bulk plants, also has a subsidiary selling bottled gas. Started in 1909 by the father of the present Thornhill, the company's principal business was kerosene for lamps. It's first gasoline station, with pump indoors and hose out the window, came in 1919; distillate fueloil in 1930.*

J. R. Kimball, *president, Home Heating & Appliance Co., Columbia, installed last year 150 Oil-O-Matics. His best prewar year was 1941 with 65 jobs. Kimball, brother of B. F. Kimball, the G-E man, bought two oil trucks last fall, but without his own storage. This year he's building 100,000 gallon storage.*

Lenaire F. Wolfe, *Orangeburg dealer for G & B-Esso burners, has a reputation for dominating oilheating work in this town of 15,000. At least 90% of the burners operating in town are his jobs. With few basements in Orangeburg homes, nearly every sale involves first digging a basement, then a complete heating job.*

Range Oil Sales By Grades and by States U. S. Bureau of Mines Figures

(Thousands of barrels of 42 gallons)

NEW ENGLAND STATES

1	Kero-sene	No. 1 Fuel	1946 Total	1945 Total
Massachusetts	12,838	458	13,296	11,227
Connecticut	4,219	223	4,442	3,995
Rhode Island	2,423	101	2,524	2,132
Maine	1,636	127	1,763	1,522
N. Hampshire	982	46	1,028	873
Vermont	505	..	505	452
	22,603	955	23,558	20,201

MIDDLE ATLANTIC STATES

2	Kero.	No. 1	1946	1945
New York	8,204	342	8,546	7,122
New Jersey	4,195	231	4,426	3,756
Pennsylvania	1,658	255	1,913	1,365
Maryland	807	8	815	696
Dist. of Col.	155	10	165	130
Delaware	172	..	172	133
	15,191	846	16,037	13,202

MIDDLE WESTERN STATES

3	Kero.	No. 1	1946	1945
Illinois	2,138	1,796	3,934	3,345
Michigan	570	853	1,423	1,226
Wisconsin	369	703	1,072	949
Iowa	415	437	852	1,035
Minnesota	515	582	1,097	926
Missouri	660	451	1,111	867
Ohio	731	121	852	669
Indiana	399	308	707	604
Nebraska	335	83	418	353
Kansas	217	65	282	241
N. Dakota	113	106	219	139
S. Dakota	138	44	182	145
	6,600	549	12,149	10,499

WESTERN STATES

4	Kero.	No. 1	1946	1945
California	250	..	250	381
Montana	48	201	249	218
Colorado	65	188	253	195
Wyoming	19	39	58	40
New Mexico	142	30	172	110
Washington	46	..	46	32
Oregon	40	..	40	32
Utah	11	39	50	17
Arizona	31	..	31	27
Idaho	13	38	51	43
Nevada	2	..	2	3
	667	535	1,202	1,098

SOUTHERN STATES

5	Kero.	No. 1	1946	1945
N. Carolina	1,075	31	1,106	885
Florida	961	66	1,027	804
Texas	1,362	21	1,383	1,111
Georgia	536	80	616	471
S. Carolina	410	68	478	366
Virginia	526	41	567	470
Oklahoma	381	12	393	284
Arkansas	466	101	567	454
Tennessee	449	49	498	433
Louisiana	253	33	286	221
Alabama	240	59	299	237
Kentucky	197	1	198	134
Mississippi	127	12	139	110
W. Virginia	61	..	61	41
	7,044	574	7,618	6,021

TOTAL UNITED STATES

	Kero.	No. 1	1946	1945
U. S. Total	52,105	8,459	60,564	51,021

1946 Fueloil Consumption, United States Bureau of Mines

SALES OF LIGHT fueloil and kerosene established new records again in 1946, while sales of heavy fueloils dropped sharply from the 1945 peak, according to the annual survey by A. T. Coumbe, head of the Petroleum Economics Branch, U. S. Bureau of Mines.

Reports of oil dealers indicate sales of 242,550,000 barrels of distillate fueloils in 1946, a 5% gain over 1945 requirements, while the market for kerosene rose by nearly 18% to reach 88,090,000 barrels.

The need for heavy fuels shrunk noticeably during the first full year of peace and as a result the total declined by 11% to 483,226,000 Bbls. Exports of distillate fueloils dropped by 12%, from 33,496,000 barrels in 1945 to 29,353,000 in 1946, while overseas demands for residual grades slumped by 19% to 9,486,000 barrels. Exports of kerosene rose noticeably from 6,180,000 barrels in 1945 to 8,559,000 barrels in 1946.

All principal demands for distillate fueloils showed gains in 1946, except quantities reported for consumption by vessels and the military forces. The shrinkage in these two important uses was confined largely to the diesel grades and the net result was the relatively small gain of 5% in total distillate deliveries.

The railroads bought a fifth more light fueloils, mostly diesel fuel, in 1946 than in 1945. Water-borne traffic contracted sharply with the ending of the war and consequently the need for distillate fuels, again mostly diesel, slumped by 15% in volume.

Gas and electric power plants turned strongly to oil fuel in 1946 and as a result their purchases of the light grades were more than 50% above 1945, while distillate fueloil credited to smelters, mines and manufacturing plants mounted by 12%.

Quantities of distillate sold for domestic heating, with all rationing regulations off for the full year and numerous new burners to supply rose by nearly 18%.

The total of No. 1 fueloil delivered for range burners was also up noticeably in 1946—13% over the year before. The military forces under peace conditions bought comparatively small quantities of diesel fuel and other light grades of fueloil and consequently their total was nearly 70% below 1945. Distillate fuel reported for miscellaneous uses, including tractor fuel, in 1946 was 11% over the 1945 total.

Important gains in sales of light heating oils were reported in all parts of the country in 1946. Deliveries in the East Coast area accounted for 56% of the total and the volume of sales increased by about 15%. There was a 13% rise in both the New England and Middle Atlantic states and a 36% gain for the South Atlantic area. About a quarter of the distillate heating oils are consumed in the North Central (Midwest) states and deliveries there were up 20% over 1945. The gain for the Pacific Coast marketing area was 25% in 1946 and the quantity represented 12% of national sales.

Fueloil Sales 1942-46, by Uses

(In millions of barrels)

DISTILLATE					USES	RESIDUAL				
1942	1943	1944	1945	1946		1942	1943	1944	1945	1946
122	113	112	121	143	Heating	47	43	40	44	49
5	6	7	7	8	No. 1 Sold as Range	..	..	..	..	..
6	9	11	14	18	Railroads	100	116	115	112	100
9	11	13	14	12	Vessels	38	62	92	100	88
6	6	6	7	11	Utilities	28	31	34	35	51
13	15	17	19	21	Industrial	85	84	87	91	95
1	1	1	1	2	Oil Company Fuel	45	47	55	57	58
11	33	43	30	9	Armed Forces	57	93	101	97	36
14	14	15	17	19	All Other Uses	6	6	4	5	5
187	208	225	230	243	Total United States	406	482	528	542	482
22	25	43	33	29	Exports	12	15	13	12	9
209	233	268	263	272	Total	418	497	541	554	491

Heating Oil Sales

By Grades and by States

Official U. S. Bureau of Mines Figures

(In thousands of 42-gallon barrels)

NEW ENGLAND STATES

1946				Total Distillate			1946		Total Residuum		Grand Totals	
No. 1	No. 2	No. 3	No. 4	1946	1945	1	No. 5	No. 6	1946	1945	1946	1945
465	9,701	251	..	10,417	9,164	Massachusetts	666	3,931	4,597	3,828	15,014	12,992
194	4,348	583	20	5,145	4,587	Connecticut	543	1,056	1,599	1,441	6,744	6,028
52	2,355	302	..	2,709	2,462	Rhode Island	8	703	711	579	3,420	3,041
29	773	7	..	809	726	N. Hampshire	7	235	242	229	1,051	955
42	1,036	1	..	1,079	855	Maine	1	181	182	163	1,261	1,018
1	551	13	..	565	518	Vermont	11	70	81	67	646	585
783	18,764	1,157	20	20,724	18,312		1,236	6,176	7,412	6,307	28,136	24,619

MIDDLE ATLANTIC STATES

No. 1	No. 2	No. 3	No. 4	1946	1945	2	No. 5	No. 6	1946	1945	1946	1945
985	24,066	1,979	276	27,306	24,134	New York	1,279	9,083	10,362	9,122	37,668	33,256
519	12,338	1,226	307	14,390	12,750	New Jersey	985	3,050	4,035	3,642	18,425	16,392
137	5,363	1,650	42	7,192	6,164	Pennsylvania	1,293	2,303	3,596	3,383	10,788	9,547
56	3,381	203	1	3,641	3,065	Maryland	145	706	851	783	4,492	3,848
41	1,729	..	..	1,770	1,565	Dist. of Col.	31	696	727	641	2,497	2,206
30	345	105	..	480	408	Delaware	..	85	85	76	565	484
1,768	47,222	5,163	626	54,779	48,086		3,733	15,923	19,656	17,647	74,435	65,733

MIDDLE WESTERN STATES

No. 1	No. 2	No. 3	No. 4	1946	1945	3	No. 5	No. 6	1946	1945	1946	1945
1,257	5,849	6,796	254	14,156	12,371	Illinois	2,265	2,912	5,177	4,866	19,333	17,237
910	3,160	1,077	25	5,172	4,116	Minnesota	259	103	362	408	5,534	4,524
1,307	2,208	1,614	68	5,197	4,223	Michigan	1,039	990	2,029	1,807	7,226	6,030
529	1,592	1,921	48	4,090	3,646	Missouri	1,103	411	1,514	1,621	5,604	5,267
447	2,167	1,470	14	4,098	3,335	Wisconsin	395	194	589	539	4,687	3,874
461	1,487	365	2	2,315	1,897	Iowa	118	44	162	154	2,477	2,051
402	882	516	51	1,851	1,454	Indiana	407	218	625	580	2,476	2,034
410	407	861	4	1,682	1,537	Nebraska	115	18	133	151	1,815	1,688
733	223	728	19	1,703	1,490	Ohio	150	47	197	190	1,900	1,680
218	288	96	2	604	407	S. Dakota	2	11	13	10	617	417
236	173	80	..	489	438	Kansas	124	90	214	239	703	677
121	197	81	1	400	299	N. Dakota	..	..	..	..	400	299
7,031	18,633	15,605	488	41,757	35,213		5,977	5,038	11,015	10,565	52,772	45,778

WESTERN STATES

No. 1	No. 2	No. 3	No. 4	1946	1945	4	No. 5	No. 6	1946	1945	1946	1945
4,023	..	3,475	..	7,498	6,128	California	4,955	705	5,660	4,562	13,158	10,690
2,985	..	2,587	..	5,572	4,194	Washington	2,091	379	2,470	1,950	8,042	6,144
1,451	..	1,303	..	2,754	2,127	Oregon	1,588	690	2,278	1,750	5,032	3,877
285	..	186	..	471	519	Nevada	68	5	73	71	544	590
349	..	232	..	581	507	Arizona	28	..	28	17	609	524
143	183	156	..	482	353	Colorado	2	..	2	..	484	353
225	59	90	2	376	246	Idaho	..	..	..	2	376	248
97	13	198	8	316	176	Utah	..	..	..	2	316	178
244	115	77	..	436	315	Montana	14	43	57	50	493	365
56	49	36	..	141	109	Wyoming	15	2	17	4	158	113
32	66	12	..	110	64	New Mexico	..	..	..	..	110	64
9,890	485	8,352	10	18,737	14,738		8,761	1,824	10,585	8,408	29,322	23,146

SOUTHERN STATES

No. 1	No. 2	No. 3	No. 4	1946	1945	5	No. 5	No. 6	1946	1945	1946	1945
175	1,194	15	..	1,384	1,104	Virginia	4	183	187	166	1,571	1,270
162	525	205	..	892	623	Florida	25	365	390	328	1,282	951
103	491	479	..	1,073	751	N. Carolina	..	20	20	18	1,093	769
50	152	72	7	281	249	Louisiana	..	50	50	46	331	295
31	265	189	..	485	352	Georgia	17	41	58	43	543	395
17	656	203	152	1,028	812	Texas	..	75	75	73	1,103	885
37	269	42	..	348	231	S. Carolina	8	..	8	6	356	237
70	147	91	..	308	235	Kentucky	25	90	115	119	423	354
2	64	10	..	76	69	Arkansas	..	55	55	50	131	119
21	25	27	1	74	68	Oklahoma	2	..	2	1	76	69
86	62	128	..	276	190	Alabama	7	4	11	12	287	202
20	169	72	..	261	171	Tennessee	..	95	95	85	356	256
15	40	50	..	105	96	W. Virginia	..	..	..	..	105	96
14	9	26	..	49	42	Mississippi	..	..	..	..	49	42
803	4,068	1,609	160	6,640	4,993		88	978	1,066	947	7,706	5,940

TOTAL UNITED STATES

No. 1	No. 2	No. 3	No. 4	1946	1945		No. 5	No. 6	1946	1945	1946	1945
20,275	89,172	31,886	1,304	142,637	121,342	U. S. A.	19,795	29,939	49,734	43,874	192,371	165,216

fuelall oil heat

Watch Wet Heat

Modern Boiler Heating Systems Are Sold on Four Points

By
Joseph R. Murphy*

ONE OF THE CHIEF uses of adversity —adversity in the form of competition, at least—is to keep everybody on his toes and fighting to improve his product, sell harder, reduce his costs and deliver greater customer satisfaction. We who have been in the "wet heat" business have experienced competition, and plenty of it, in recent years. We now are on our toes and are planning to win the next round.

The Sunday punch we are going to uncork is the forced hot water heating system which we believe will deliver more comfort and more satisfaction per customer dollar than any other system now offered. There is nothing terribly wrong with other heating systems, but we believe we have in the new hot water system all of the advantages of the others, plus some that the competition cannot deliver.

Everyone in the industry knows that the most exclusive feature of a boiler heating system is year 'round domestic hot water from the same fire that heats the house. Oilburner dealers were quick to capitalize on this advantage years ago, and they are still stressing it to their financial advantage today. But there is a lot more to wet heat than this powerful reason to buy.

Makes Slide Film

Our company feels so strongly about the advantages we see in a boiler heating system that we have just produced a 15-minute sound slide film entitled, "The Four Aces." The four chief features of wet heat, we believe, is that it delivers (1) Radiant warmth; (2) Controlled warmth; (3) Draftless warmth, and (4) Economical warmth. Such features as year 'round domestic hot water, packaged system, and low first cost, we mention but do not stress.

Radiant warmth is not our first ace by accident. We believe that radiant heat is essential to complete comfort. Providing comfort is not a matter of applying heat to the body. The body manufactures its own heat, and any attempt to apply heat to the body should be done only by a competent physician. Changing body temperature is a delicate and serious performance and is not to be attempted by a heating contractor. What we are doing with a heating system is controlling the temperature of the environment of the body in order to regulate the heat loss from the body.

Slightly less than half the comfort we feel is directly dependent on the temperature of the things around us; the walls, the furniture, the floor and ceiling. This means that 49% of the comfort effect is accomplished by radiation to or from the body. In winter we require some radiation to the body to keep it from losing heat too fast. In summer we wear thinner clothes and seek cool places to speed up radiation from the body.

We wear heavier clothes in winter to slow the heat loss from the body. But it is much easier to keep comfortable on a cold winter day if we are in the sun than when we are in the shade. Radiant heat from the sun, though it may seem negligible, helps to retard the body heat loss and we get a sense of warmth. You have seen pictures of people skiing in bathing suits—getting their entire body heat loss regulation from the sun. This is not recommended, but only cited as illustrative of what is possible where there is a strong source of radiant heat.

It is possible to heat air to a temperature that will sufficiently retard body heat loss so we get a feeling of comfort though surrounding objects are cold, but since so much of the comfort effect is governed by radiation, it requires relatively high air temperatures to get the same feeling of comfort. High air temperatures in a room, of course, soon will warm walls and furniture so that body heat loss is retarded by the radiant effect as much as by the actual surrounding air temperature.

The body *generates its own heat. Comfort is attained by controlling the rate of heat loss to cooler surroundings.*

The old familiar "cold 70" is an example of lack of radiation causing discomfort. Though the air in a room is at 70°, occupants frequently feel uncomfortable when radiators cool sufficiently so that they do not "shine" heat into the room. Relatively cold surfaces in the room are drawing heat from the body at a rate too high to permit a sense of comfort. We feel that a "warm spot," or a series of them in a room are necessary to supply the radiant heat that will permit complete comfort at all times. We feel, also, that a wet heat system is the best and most economical way to keep the "warm spot" warm, so that by direct radiation to the occupants of a room, and to the walls and furnishings, the rate of body heat loss is held at a comfortable level.

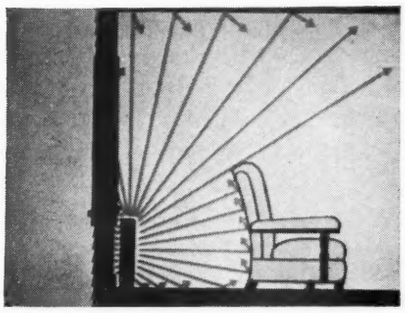
Controlled warmth, our second ace, is

*Vice-President, Taco Heaters, Inc., New York.

accomplished in a modern forced hot water heating system by maintaining a constant boiler water temperature that is high enough to heat the radiators or radiant panels whenever heat is needed. In this way heat always is on tap, and the circulator, in answer to a call from the thermostat, will deliver hot water to every radiator or panel in the house in less than 60 seconds. This gives extreme flexibility to the system. Much heat, or little, can be supplied as needed, without waiting for the heating plant to generate heat, and without waiting for the heat to find its way into the rooms. Under close control the radiant surfaces are maintained at a temperature that insures comfort.

Some of the modern radiant systems employ relatively large radiating areas, which are kept at comparatively low temperatures. Hot water radiators of conventional design will contain water at temperatures as high as 200°, while the much larger radiant surfaces such as floor, wall or ceiling panels may use water as low as 85°. These larger surfaces permit the control of temperature variation between floor and ceiling to less than 1°. We believe that is real "controlled warmth."

Our third use, "Draftless Warmth," simply is a matter of delivering heat to the living space without having to introduce a flow of air which may create a draft. A flow of air over any part of the body increases the rate of body heat loss. This is desirable in summer when



Radiant heat *from a radiator, like the sun, warms objects on which it "shines."*

we start the electric fan for this exact purpose, but it can be most objectionable in winter when we are trying to decrease the heat loss. We also believe it is undesirable to circulate air from all parts of the house.

Modern forced hot water heating

Convection currents *over the radiator warm the air which in turn warms surroundings.*

systems will supply complete comfort and all domestic hot service water requirements at as low first cost as these services can be supplied by any other type of system. By operating the heating plant the year around for domestic hot water there is less deterioration of the heating plant and firing unit than when the plant is idle during the summer. Maintenance and replacement cost is at a minimum in such a system. "Economical warmth" in a forced hot water system is a matter of pennies per day for complete comfort.

The points covered are briefly those covered in more detail and in sales form in our sound slide film, "The Four Aces." The film will be shown to dealers all over the country this year, at meetings now being arranged by wholesalers. The script sums up the reasons we believe the "wet heat" industry has met and beaten competition.

Crude Reserves Increase 614 Million Barrels in 1947

PROVED RESERVES of crude oil in the United States increased 614,125,000 barrels during 1947, after allowing for production of 1,850,445,000 during the year. Including natural gas liquids, which were reported separately from crude oil for the first time last year, the total increase in liquid hydrocarbons reached 704,881,000 barrels during the year.

Total recoverable crude oil in sight at the end of 1947 was 21,487,685,000 barrels, and natural gas liquids stood at 3,253,975,000 barrels, making reserves at a new all-time high of 24,741,660,000 barrels. Reserves of natural gas also increased 5.351 trillion cubic feet by the end of 1947.

The eleven man committee on petroleum reserves point out in their report:

"The estimates in this report, as in all previous annual reports of this committee, refer solely to proved or blocked-out reserves. They include only oil and natural gas liquids recoverable under existing economic and operating conditions.

"The estimates made for this report by your committee do not include:

1. Oil under the unproved portions of partly developed fields.
2. Oil in untested prospects.
3. Oil that may be present in unknown prospects in regions believed to be generally favorable.
4. Oil that may become available by secondary-recovery methods from fields where such methods have not yet been applied.
5. Oil that may become available through chemical processing of natural gas.
6. Oil that can be made from oil shale, coal, or other substitute sources.

"Proved reserves are both drilled and undrilled. The proved drilled reserves,

(*Continued on page 84*)

Crude Oil — American Petroleum Institute
(Barrels of 42 U. S. Gallons)

Total proved reserves of crude oil as of December 31, 1946		20,873,560,000
Revisions of previous estimates	+ 749,278,000	
Extensions of old pools	1,269,862,000	
New reserves (new pools) discovered in 1947	445,430,000	
Proved reserves added in 1947		2,464,570,000
Total proved reserves as of December 31, 1946 plus new proved reserves added in 1947		23,338,130,000
Less production during 1947		1,850,445,000
Total proved reserves of crude oil as of December 31, 1947		21,487,685,000
Increase in crude oil reserves since December 31, 1946		614,125,000

Improving Conversion Installations

The Effect of Refractories and Baffles on Operating Efficiency

by

R. S. Dill and P. R. Achenbach

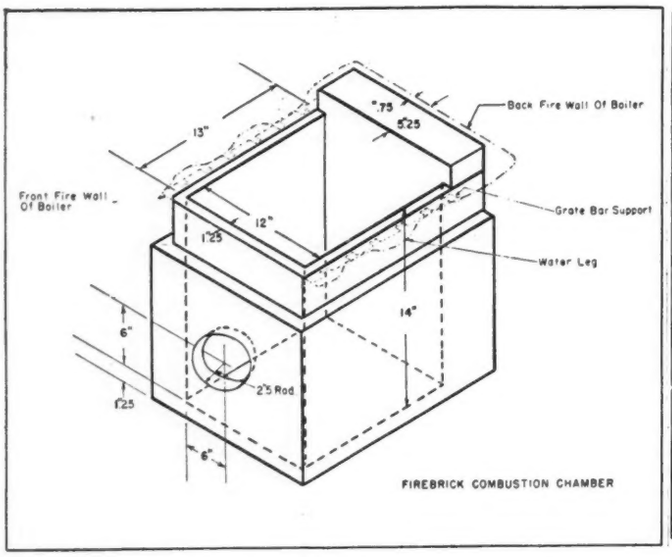
The work described here by Mr. Dill and Mr. Achenbach, both of the National Bureau of Standards, originally was reported as Technical Report 1147 of the Bureau. It is presented here because of the present interest among oil-heating men in getting the maximum heating effect out of every gallon of oil. These tests show the effect of using light-weight refractory materials, baffles and careful sealing of doors on operating efficiency and heating plant capacity.

IN GENERAL, either the gun-type or the rotary-type oilburner can be installed in a conventional coal-fired boiler to convert it to the use of oil fuel. Converted coal-fired boilers are not likely to be as efficient as those originally designed for fueloil since the efficient combustion of coal requires more combustion space and larger gas passages through the boiler than does liquid fuel. Various devices are used to improve the efficiency of converted boilers. As part of the research program on home heating plants in the heat transfer laboratory of the National Bureau of Standards, tests were made to show the advantage of using a precast light weight combustion chamber for the oilburner instead of one made of standard firebrick. The program also included an evaluation of the increase in capacity obtained with two types of cast-iron baffles.

Refractory linings were originally used in the combustion spaces of oil-burning boilers to protect metal parts from the intense heat of flames. However, it was soon observed that the presence of the hot refractory improved combustion and increased the heat transfer by radiation to the heating surface of the boiler. A refractory of low specific heat and low conductivity will rise in temperature more rapidly from a cold start and maintain a higher temperature during steady operation of the oilburner. This higher firebox temperature will produce more complete combustion of the fuel and increase the heat transfer by radiation to the crown sheet. Moreover, less heat will be lost through the floor and sides of the chamber by conduction.

Metal or refractory ceramic plates are frequently installed in converted boilers to direct the hot combustion gases more effectively over the heat-transfer surfaces. When a gun-type oilburner is installed in the front of a boiler which has flue passes at the rear, there is a tendency for the hot gases to pass to the rear of the boiler in the combustion chamber itself and upward to the outlet without having brushed over the front part of the crown sheet. By attaching a baffle to the rear wall of the boiler which extends half way to the front, the hot gases are deflected forward and brought in contact with the entire crown sheet before passing up the rear flues.

A stock, rectangular, cast-iron boiler with four vertical sections was used for some tests at the National Bureau of Standards. There were two sets of uptake flues at the rear of the boiler—one set between the third and fourth sections and a smaller set between the second and third sections. The oilburner was a stock model of the pressure-atom-



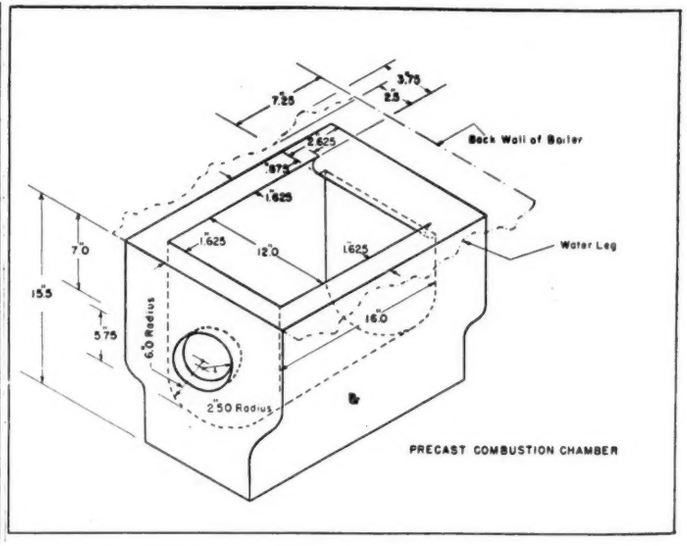


Fig. 1 *(left). A line drawing, perspective view of the firebrick combustion chamber used in the tests, made of standard 2¼" x 4½" x 9¼" firebrick. Space between the firebrick and water legs was filled with a mixture of mangesia and Portland cement.* **Fig. 2** *(right). Perspective view of the precast combustion chamber used in tests, consisting of 8 pieces of refractory fitted together. Space between the chamber and water legs was filled with an insulating cement*

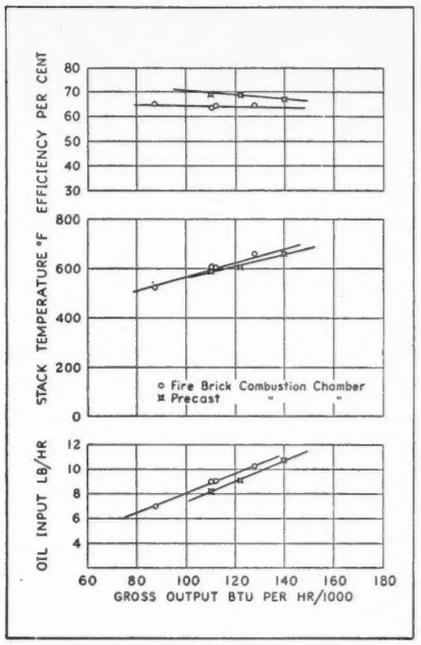


Fig. 3. *Graphs showing comparison when using the firebrick chamber and precast chamber without baffles.*

izing, mechanical-draft type with a capacity in the range of one to two gallons of oil per hour.

A conventional fire-brick combustion chamber was first used in the boiler. It was rectangular in shape with interior dimensions 13 inches long, 12 inches wide and 14 inches deep, in accordance with the recommendations of the oil-burner manufacturer. The chamber was then replaced by a precast combustion chamber of lightweight refractory material having practically the same internal volume. The bottom of the precast combustion chamber was cylindrical in shape with the center line of the cylinder running from front to back of the boiler. The inside dimensions of the precast chamber were: width 12 inches, length 16 inches, and maximum depth 13 inches.

Baffles were not used in the boiler during the comparison of the two combustion chambers. During later tests a crown-sheet baffle and rear-flue baffles were installed in the boiler. The crown-sheet baffle consisted of a cast-iron plate, ½-inch thick, bolted to the back of the boiler through one of the holes normally used for the U-shaped domestic hot-water heating coil. This plate extended forward from the back of the boiler a distance of 12 inches in a horizontal plane. Its width was the same as the interior of the boiler and reached to the joint between the second and third sections from the front of the boiler. The plane of the baffle was six inches below the crown sheet and 12 inches above the top of the combustion chamber.

The baffles used in the uptake flues were cast iron plates 2¼ x 6 inches. Placed in the forward two uptakes between the third and fourth sections, they closed the entire openings.

In order to permit ready comparison of the capacity and efficiency of the converted boiler with the different combustion chambers and baffles, a fixed set of conditions was reproduced substantially

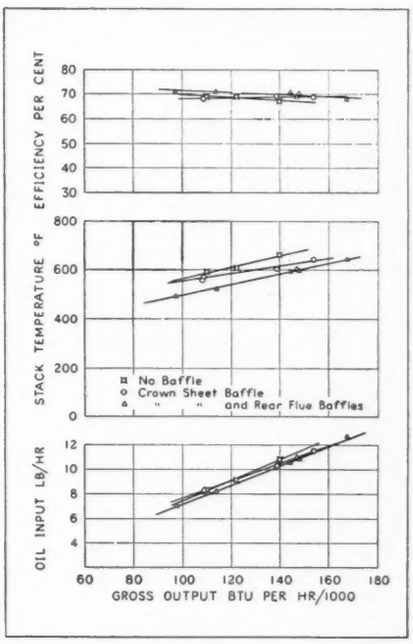

EFFICIENCY PER CENT
STACK TEMPERATURE °F
x No Baffle
o Crown Sheet Baffle
a " " and Rear Flue Baffles
OIL INPUT LB/HR
GROSS OUTPUT BTU PER HR/1000

Fig. 4. *Effect of using crown sheet baffle alone and with rear flue baffles in boiler equipped with precast chamber.*

during the first test after each modification of the boiler. The "fixed" conditions were established during a preliminary heating period by adjusting the rate of fuel supply, the draft, and the air openings into the burner to produce approximately a stack temperature of 600° F., a concentration of 10 percent of carbon dioxide in the flue gas, and a draft of 0.02 inch water gage in the firebox. The heat output at the outlet of the boiler under these specific conditions was called the "gross rated output" or more briefly the "capacity" of the boiler. When the capacity had been determined, additional tests were made at approximately 80 and 120 percent capacity, but with the same firebox draft and with flue gases of the same composition.

The results of the tests when the boiler was equipped with the precast combustion chamber and with the firebrick combustion chamber showed that the capacity or gross rated output was 115,000 Btu/hr with the precast chamber and 112,000 Btu/hr with the firebrick chamber, whereas the efficiencies were 69.1 and 64.3 percent, respectively. That is, at gross rated output a fuel saving of 6.9 percent could be obtained by the use of the light precast chamber.

The heat available in the fueloil being injected into the combustion chamber during these tests was dissipated three ways. The major part appeared as useful heat in the steam delivered from the boiler. A second part passed up the chimney in the flue gases, including that carried away by the water vapor produced by combustion of hydrogen. The third part was either dissipated from the boiler setting by radiation, conduction, and convection, or passed up the chimney as unburned fuel. With 10 percent carbon dioxide in the flue gas and a 600° F. stack temperature, the heat energy passing up the chimney is about 22.3 percent of the total heat of the fuel. Thus, the sum of the first two items was

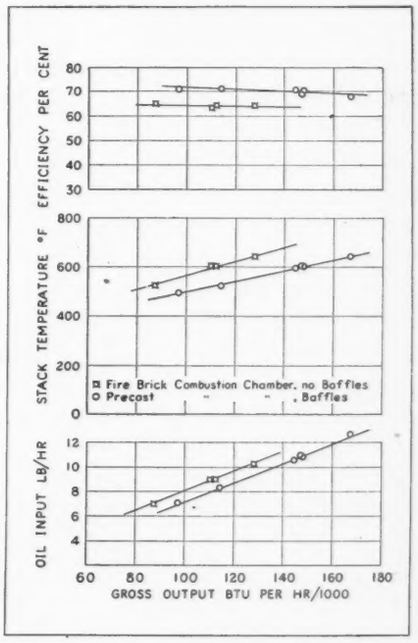

EFFICIENCY PER CENT
STACK TEMPERATURE °F
x Fire Brick Combustion Chamber, no Baffles
o Precast " " Baffles
OIL INPUT LB/HR
GROSS OUTPUT BTU PER HR/1000

Fig. 5. *Characteristics of the boiler when using firebrick chamber without baffles, compared with operation using precast chamber and both baffles.*

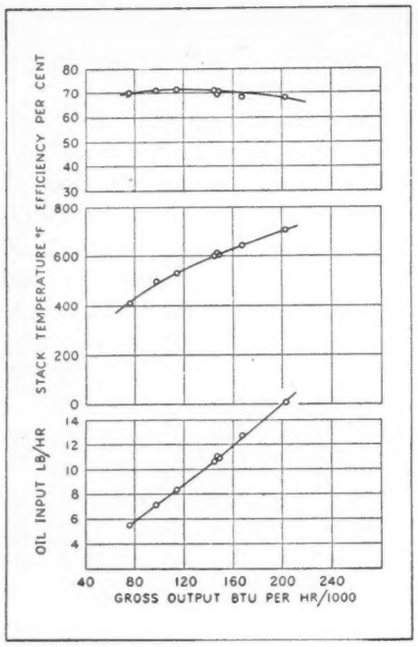


Fig. 7. *Boiler characteristics over a range of output from 75,000 to 200,000 Btu/hr, using precast chambers and both baffles.*

86.6 percent when the firebrick combustion chamber was used and 91.4 percent with the precast chamber. Hence the radiation, conduction, and convection and incomplete combustion losses in the first case were 13.4 percent and in the second case 8.6 percent of the heat available in the fuel. A heat balance showed that the sum of these two losses was 8300 Btu/hr greater with the firebrick combustion chamber than with the precast combustion chamber.

The precast chamber became visibly hotter during continuous operation than the firebrick chamber. The former reached a medium cherry red color over its entire inside surface, while the latter did not glow visibly at any place during the course of the tests. This indicates that the flow of heat from the area of combustion through the refractory of the chamber was less for the precast material than for the firebrick.

A comparison of the results obtained with and without baffles shows that the crown sheet baffle alone increased the gross rated output of the boiler about 12 percent, but had no effect on the efficiency. The use of both the crown sheet baffle and the rear flue baffles increased the gross rated output about 27 percent and increased the efficiency about 1 or 2 percent. These tests were all made with the precast combustion chamber installed in the boiler.

SUMMARY OF BOILER PERFORMANCE FOR FIVE TEST CONDITIONS
(CO_2 10%, stack temperature 600° F., firebox draft 0.02 inch water gage)

Combustion Chamber	*Baffles*	*Gross Rated Output Btu/hr*	*Efficiency %*	*Oil Input lb/hr*
Firebrick	None	112,000	64.3	9.05
Precast	None	115,000	69.1	8.72
Precast	Crown sheet	128,500	68.8	9.70
Precast	Crown sheet and rear flue	146,000	69.5	10.78
Precast	Crown sheet and rear flue	152,000*	70.4	11.20

*Fire door, cleanout door, and clinker door sealed.

Comparing the performance at some intermediate gross output, such as 130,000 Btu/hr, the precast combustion chamber and both baffles reduced the stack temperature from 655 to 565° F.,

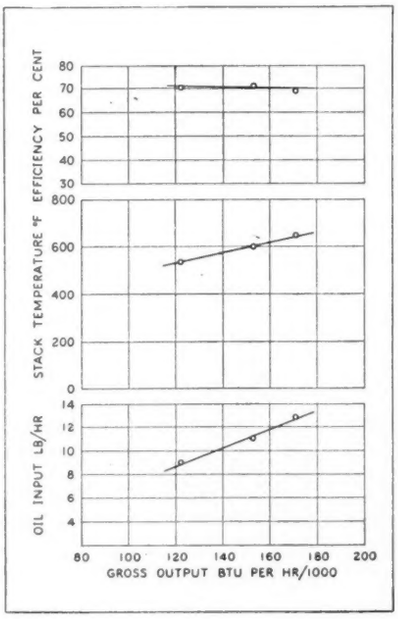


Fig. 6. *Performance of boiler when fire door, clinker door and cleanout door are sealed and using precast chamber and both baffles.*

reduced the oil consumption rate 9.5 percent, from 10.5 to 9.5 lb. per hr., and increased the efficiency from 64.1 to 70.5 percent.

Inasmuch as the fire door, clinker door, and cleanout door are frequently sealed in oilburning installations, tests were made to determine the effect of this air leakage on the performance of the boiler. It was found that sealing the doors increased the gross rated output from 146,000 to 152,000 Btu/hr and increased the efficiency about one percent. This was to be expected since sealing the doors prevents relatively cool air from leaking in around the hot combustion gases and interfering with the heat transfer. The accompanying table summarizes the results obtained for the several boiler modifications used for the tests.

The results of these tests point the way toward improving the efficiency and increasing the ratings or capacities of boilers, after conversion from the use of coal to oil, by means of baffles in the flue passages and combustion chamber, by means of precast combustion chambers of special shape and low-density material, and by sealing the fire door to prevent leakage. Besides the use of baffles, boiler capacity can also be increased and the efficiency can be improved slightly by adding sections to a cast-iron boiler, thereby increasing the heating surface. The economic problem may sometimes arise whether an increase in boiler capacity shall be attained by the use of baffles, the installation of additional sections in a cast-iron boiler, or the use of a new and larger boiler. It is anticipated that, in many such cases, the use of baffles will prove to be the best expedient, since no change in piping or other arrangements would be entailed.

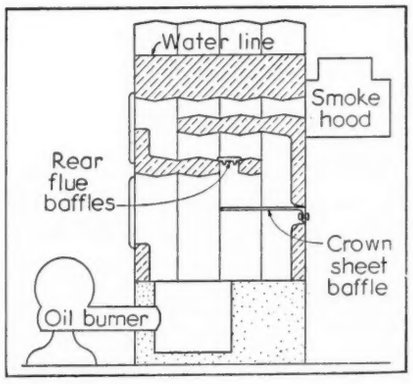


Fig. 8. *Cross-section of cast-iron boiler, showing application of crown-sheet and rear flue baffles for increasing the capacity of a coalfired boiler converted to oil.*

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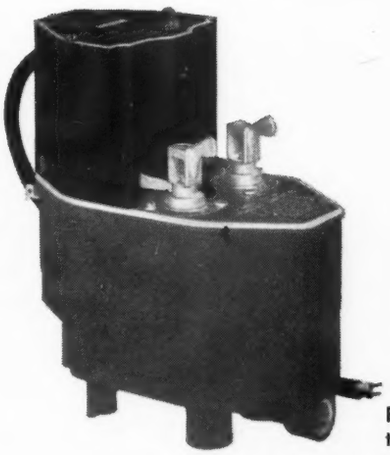

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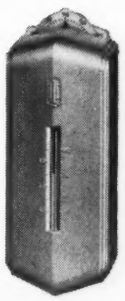

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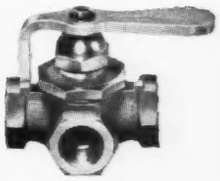

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Crude Reserves Rise

(*Continued from page 79*)

in any pool, include the oil estimated to be recoverable by the production systems now in operation, whether primary or secondary, and from the area actually drilled up on the spacing pattern in vogue in that pool. The proved undrilled reserves, in any pool, include reserves under undrilled spacing units which are so close, and so related, to the drilled units that there is every reasonable probability that they will produce when drilled.

"In the case of new discoveries, which are seldom fully developed in the first year and in fact for several years thereafter, the estimates of proved reserves necessarily represent but a part of the reserves which may ultimately be assigned to the new reservoirs discovered each year. For a one-well field, where development has not yet gone beyond the discovery well, the area assigned as proved is usually small in regions of complex geological conditions but may be larger where the geology is relatively simple. In a sparsely drilled field the area between wells is only considered to be proved if the information regarding the geology of the field and the productive horizon is adequate to assure that such area will produce when drilled. The total of new oil through discoveries estimated as proved in any given year is comparatively small, and the total of new oil through extensions is comparatively large. As knowledge of the factors affecting production and well performance become available, and as these factors are studied, reserves in older fields can be estimated with greater precision and revised accordingly. Therefore, the oil assigned to new discoveries, plus the oil proved through extensions, comprises the total quantity of the new proved reserves for the year.

"The committee again wishes especially to stress the fact that its estimates of proved reserves cannot be used as a measure of the rate at which these reserves can be produced with or without physical waste. Oil cannot be produced from the permeable rocks in which it occurs at any desired rate, because the flow of oil through the pores of the oil-bearing rocks is definitely controlled by the physical factors of the reservoir. As a matter of fact, today's known oil can be recovered only over a period of many years and at gradually declining annual rates. This has been widely demonstrated by past performance under all kinds of operating conditions. Therefore, only incorrect conclusions as to the life of these reserves can be obtained by dividing these reserves by the current rate of production."

◈

Jersey Standard has placed orders for four super tankers, with capacity of 228,000 barrels each. The four, with an aggregate capacity of 38,304,000 gals., will maintain a service speed of 16 knots and have a deadweight of 26,000 tons each. One tanker is scheduled for delivery by the end of this year, the other three early in 1948.

Imperial Oil Co., Edmonton, Alberta, is considering construction of a $30,000,000 oil pipeline to transport crude from a point 500 miles southeast of Edmonton to refining centers at Regina and Moose Jaw. A $20,000,000 well drilling and exploratory program also figures in 1948 plans.

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Socony Survey Shows Adjustments Save Fuel

PROPER BURNER ADJUSTMENTS, requiring only about an hour's work by experienced burner-maintenance men, may save fueloil users as much as 25% in extreme cases on their annual bills, a Socony-Vacuum survey indicates. These savings would more than offset the cost of the adjustments in practically all instances.

Officials emphasized that their conclusions were based only on burner adjustments, whereas still greater savings in fueloil could be obtained in many cases with changes in combustion chambers and burner nozzles and installation of draft regulators and baffles.

Although not included in the survey, a specific case cited was that of a school in upper New York State which used 12,740 gallons of fueloil last year. Major changes this year which cost about $400 resulted in a 50% savings in fuel consumption, although the current heating season is estimated to be 20% colder than the preceding one. Savings on the cost of fuel have amounted to $800 alone this year.

The Socony-Vacuum survey, which yielded conclusions on the amounts of probable wastage from improper adjustments, was confined to gun type burners. Data for the survey came from visits by the company's experts to homes and buildings throughout New York and New England and research at the Socony-Vacuum Mobilheat laboratory in Brooklyn.

The company concluded that at least 7% of fueloil consumption in eastern United States can be conserved by minor adjustment of burners alone, while with further modification in the majority of burner installations an overall saving of 10% is possible.

With respect to the burners surveyed, Socony-Vacuum reported that they can be divided into the following three groups:—

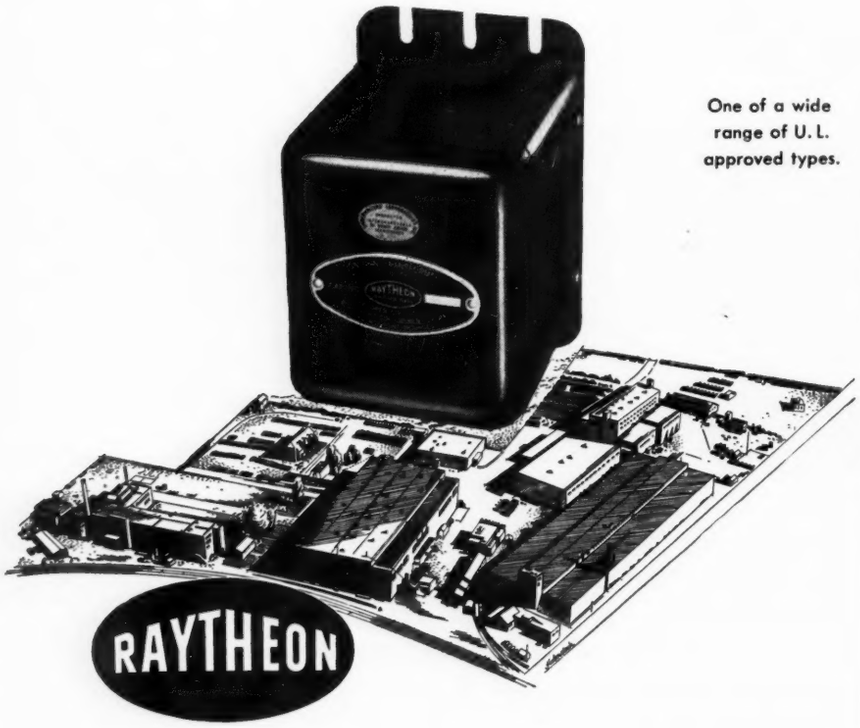
1. Approximately 24% of the burners were found to be operating satisfactorily at normal efficiency.

2. Approximately 43% were operating at low efficiency but were adjusted to give satisfactory operation at normal efficiency resulting in a fuel saving of approximately 16% on the average. This accounts for the 7% figure when adjusted to the entire group of burners surveyed. The engineers added, however, that about one-third of the burners in this group could be still further improved by major rehabilitation.

3. The remaining 33% were operating slightly below normal efficiency and could not be adjusted to give satisfactory operation without major repairs. The engineers estimated, that, if proper changes were made, an average fuel saving of 7% was possible, increasing the overall average by 2½% to 10%.

Applying their figures to a home using 2,000 gallons of fuel per heating season, the company reported that a 15% reduction in consumption through proper burner adjustments could yield a cash saving of about $36 in addition to contributing to alleviation of shortage.

They pointed out also that, in a period when householders are urged to conserve 15% of normal consumption of fuel by lowering thermostats, a large part of the savings is perhaps possible through having burners adjusted by competent service men to operate at maximum efficiency.



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House Gives OK to Krug's Synthetic Program

THE HOUSE OF REPRESENTATIVES has given its approval to the $9-billion program of Interior Secretary Krug to build synthetic oil plants and develop processes for the manufacture of oil from natural gas and coal, and recover oil from shale. There has followed a flood of statements from interested parties, mostly in favor of the plan to ad synthetic oil to the natural supply.

The only objection that has been voiced came from Dr. Gustav Egloff, director of research for Universal Oil Products Company. Dr. Egloff pointed out that the oil industry can produce sufficient oil for all needs without disturbing the domestic economy with the huge program. It is estimated that the synthetic oil program will require 16,000,000 tons of steel, which Dr. Egloff believes is much more than the oil industry would require to produce natural oil for all needs, allowing a 5% increase in total demand each year as long as the present rate of economic activity continues. He favors the construction of pilot plants to study synthetic oil production, but objects to the use of so much steel to build plants before more research is completed.

Little has been said in favor of extensive shale oil plants, but partisans have been busy advocating construction of plants for the conversion of coal and gas. Dr. J. Henry Rushton of Illinois Institute of Technology estimates that 30 chemical processing plants in the natural gas fields of the Southwest and California can produce 250,000 barrels a day of synthetic oil. Of gas reserves totaling 170 trillion cubic feet, about 100 trillion feet are available for processing, he says. This gas would be drawn from fields not now producing gas for heat and power.

Dr. Homer Z. Martin of Standard Oil Development Company has pointed out that use of a quarter of the natural gas reserves would produce 400,000 barrels a day for only 20 years, or about 15% of the current demand. A quarter of the country's coal reserves made into oil would meet the nation's oil demand for 1,500 years, Dr. Martin stated, advocating long term development with coal instead of natural gas.

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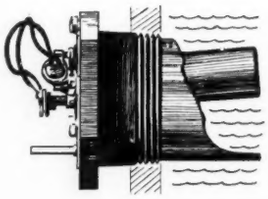

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Sizes for all types of low-pressure boilers. Cut-off alone—or combined in same compact unit with adjustable pressure control. Furnished complete with hookup fittings. Easy to install.

MAIL IT

SEND ME DETAILS on the complete Newark Controls line of low-water cut-offs for modern boilers.

NAME ..... TITLE .....

COMPANY .....

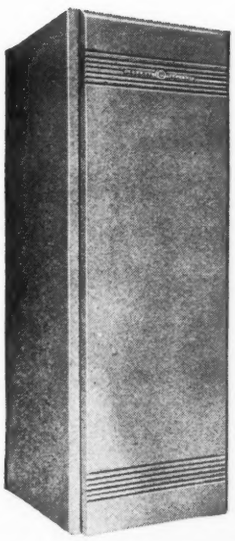
ADDRESS .....

Newark Controls 15 Ward Street Bloomfield, New Jersey

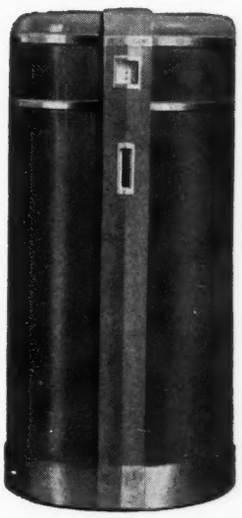
"I wish you'd stop referring to the filing cabinets as the 'Lost and Found' department!"

"I'd be glad to give you the raise your wife is demanding for you, Hoag, but my wife won't let me!"

The Finest Advertisement *you can have*



The G-E Oil-Fired Warm Air Furnace



The G-E Oil Boiler

A CUSTOMER bragging to his friends about the General Electric Oil Boiler or Oil-Fired Furnace you installed is just about the finest advertisement you could hope for.

And who wouldn't be pleased with these economical, long-lasting heating units? Many users of the G-E Oil Boiler have reported *up to 50% reduction in their fuel bills*. The Warm Air Furnace uses the same principle of fuel-saving atomization of oil as the boiler

Easy to install

The Oil-Fired Warm Air Furnace is factory-assembled, factory-wired, factory-tested and shipped in one package. It fits through any normal-sized door for quick, easy installation. It is approved for close-quarter and alcove installations with only 2-inch clearance from walls of standard construction. The warm-air job can actually be installed in 30 minutes where duct, fuel, and power lines have already been prepared. Just compare G-E installation savings with the cost of putting in units that must be assembled on the job.

The General Electric name for reliablity . . . plus the fuel-saving, space-saving features of these fine G-E heating units makes your *selling* job easier. Their compactness and simplicity make your *installation* job easier. Get full information today from G-E Distributor. *General Electric Company, Air Conditioning Department, Section H8163, Bloomfield, New Jersey.*

GENERAL ELECTRIC

Automatic Oil Heat

fueloil oil heat

Consolidated Edison Asks Gas Rate Raise

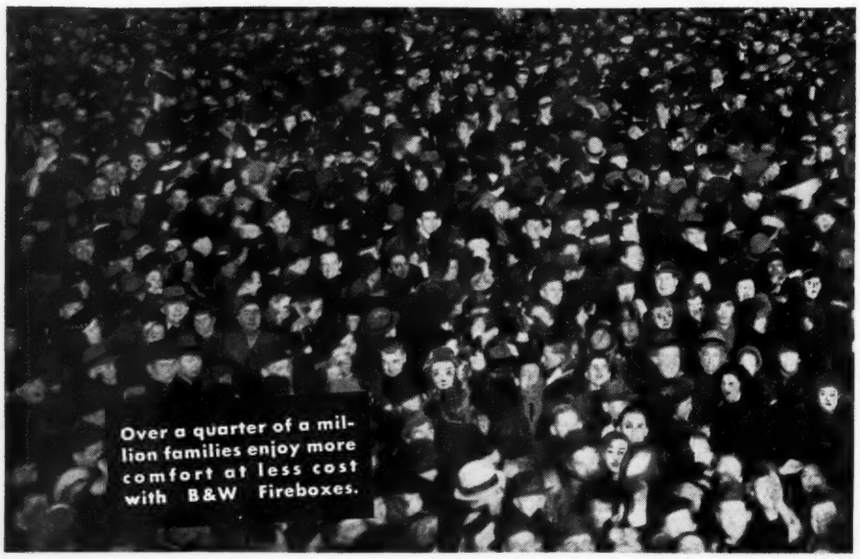
AN ESTIMATED LOSS of $1,498,500 on its gas operations for 1947 is revealed by Consolidated Edison Co., of New York, Inc., in its application for an increase in gas rates. The application was filed with the New York Public Service Commission, and the loss was cited as a reason for higher rates. Gas rates have not been increased since October 1, 1922.

The temporary rates asked would increase annual revenue by about $8,239,700 on the basis of 1947 sales, the company said. This would provide a minimum charge of $2 for the first thousand cubic feet or less of gas consumed in any bi-monthly period. For the next 4,000 cubic feet the rate would be 12 cents per hundred cubic feet, and for the next 7,000 cubic feet residential customers would be charged 10 cents per hundred.

Approximately 57% of the gas supplied by the company is presently charged for at the maximum rate of $1.15 per thousand cubic feet. The company has more than 1.1 million customers in Manhattan, the Bronx and parts of Queens.

Increases in real estate taxes, coal, coke and oil costs and in pay rates during 1947 contributed to its estimated deficit.

Sales-making FIGURES FOR FUEL OIL DEALERS



In today's competitive market the dealer needs a sales story that's backed up by convincing facts and figures.

The sales figures on B&W Insulating Firebrick are real "convincers" for the dealer who installs better fireboxes made of B&W I.F.B.

Your prospects know they can't go wrong on fireboxes built with the B&W Refractories that—

1. Save fuel due to more efficient combustion
2. Minimize odor, soot and smoke
3. Assure smoother, quieter burning
4. Respond quickly to thermostat demands

And you, Mr. Dealer, can't go wrong on the refractories that minimize maintenance problems and nuisance calls for free-service.

Why not send for your copy of the B&W FIREBOX HANDBOOK? Find out how following the B&W method of firebox construction can lead to more sales for you.

R-299

B&W REFRACTORIES PRODUCTS

B&W 80 FIREBRICK • B&W JUNIOR FIREBRICK
B&W 80 GLASS TANK BLOCKS • B&W INSULATING FIREBRICK
B&W REFRACTORY CASTABLES, PLASTICS AND MORTARS

OTHER B&W PRODUCTS

Stationary & Marine Boilers and Component Equipment
Chemical Recovery Units . . . Seamless & Welded Tubes . . . Pulverizers
Fuel Burning Equipment . . . Pressure Vessels . . . Alloy Castings

BABCOCK & WILCOX

THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
GENERAL OFFICES: 85 LIBERTY ST., NEW YORK 6, N.Y.
WORKS: AUGUSTA, GA.

Picking Up Gas Load Hiked Oilburner Sales

AS RECENTLY pointed out in the oil industry, one reason for the stringency in oil supply this winter is the unexpectedly large burner crop of 1947. In exceeding the best industry estimates by over 200,000 installations, it is significant to notice how much of this was due to getting a larger than anticipated share of the new home market, largely because gas had been cut off. Figures from the St. Louis Better Business Bureau illustrate this for that one city.

Gas has for years been cheap in that city and has had most of the new home business, particularly builder developments. But the lines got choked and oil took over to a considerable degree. The table shows oil, gas and stoker installations for 1946 and 1947.

	AUTOMATIC HEATING JOBS	
	1946	*1947*
Gasburners	6,135	1,584
Oilburners	1,025	3,240
Stokers	2,212	2,152

API Public Relations Issues Two New Pieces

TWO ADDITIONAL pieces of material have been prepared by the Public Relations Operating Committee for use by the industry in its program to gain public saving in the use of fuel oil.

"Plain Talk on Oil Today" is a popularized version of "Current Facts on Petroleum Supply and Demand." The most salient facts have been lifted from the latter and are presented in a more readable manner to inform the general public of the reasons for the current supply-demand situation, and the efforts the industry is making to alleviate it. The leaflet "Save Oil for Comfort" states the facts about oil today and tomorrow and appeals for saving in the use of petroleum products.

These materials have already been sent to the District Committees and are available to the industry through them.

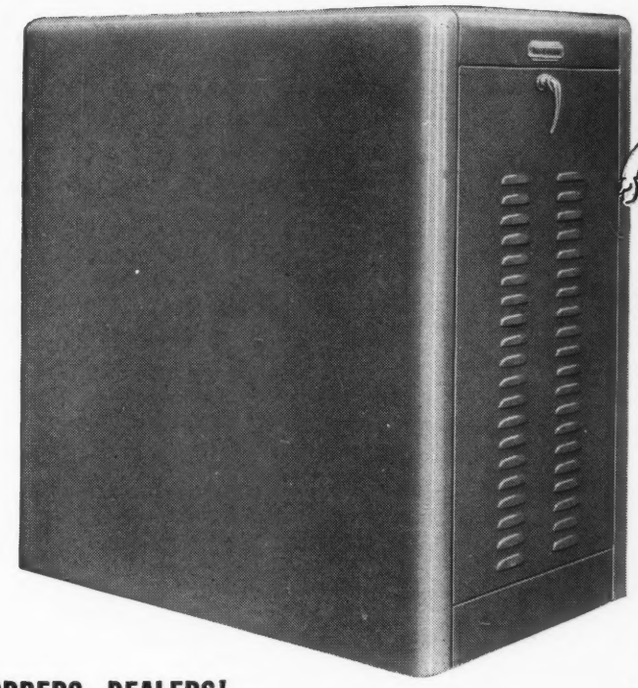
JOBBERS, DEALERS! Your customers will want this carefree, year 'round, conditioned comfort!

KO-Z-AIRE®

CONDITIONED HEAT *for* ALL HOMES

HERE'S THE PACKAGED HEATING UNIT you've been waiting for. **KO-Z-AIRE HI-BOY** and **CONVENTIONAL "65"** are factory assembled by experts; delivered to you ready for immediate installation.

DESIGNED ESPECIALLY FOR SMALLER HOMES, **KO-Z-AIRE** units give quicker heating "pick-up" on cold mornings; offer carefree, year 'round, conditioned comfort.



The CONVENTIONAL "65" is ideal where floor space is no problem. Dimensions: 25" x 52" x 47". Output up to 65,000 BTU. Oil or gas-fired.

The HI-BOY "65" uses less floor space; measures 25" x 34" x 67". Fast heat producer.

Other **KO-Z-AIRE** Conditioning Units available to meet heating needs to 350,000 BTU.

JOBBERS, DEALERS!

KO-Z-AIRE Conditioning Units are sold on a firm jobber policy basis. There are still choice territories open. Write, phone or wire for complete information.

KO-Z-AIRE

Nationally Distributed by

JONES & BROWN, INC.

439 SIXTH AVENUE PITTSBURGH 19, PA.

fueloil & oil heat

Commerce Department Sees 4.5 Million Burners by 1950

FOUR AND A HALF MILLION domestic oil-burners will be operating in 1950, according to estimates contained in the Department of Commerce report, "United States Petroleum Refining," a study of refining capacity in the country. It is estimated that these burners will require 47 barrels of distillate a year, or 211 million barrels of heating oil in 1950, compared with 121 million barrels in 1945, the last year for which authentic figures are available.

This estimate allows for the addition of about a million domestic burners in the next two years. If these new installations were evenly divided, the half million burner in 1948 would closely parallel the 550,000 estimate for 1948 made by FUELOIL & OIL HEAT in January. No estimate is made of new space heater installations.

With an estimate of gasoline demand at 936 million barrels in 1950, the report sees the need for adding 300,000 to 400,000 barrels a day to our refining capacity in the next two years. It is believed that total petroleum demand in 1950 will reach 2.18 billion barrels.

◈

Carolina State Figures Show Space Heater Rise

KEROSENE SALES in North Carolina for the month of December, as reported by W. A. Parker, secretary of the North Carolina Oil Jobbers Assn., are up 57% from the year previous, which in turn was up 38% from the year before that. At that season of the year nearly all kerosene sold is used for heating, as contrasted to the summer season in that state when the farm demand is the principal application. December kerosene sales in three years were: 1945—10,322,404 gallons; 1946—14,278,664 gal.; 1947—22,389,668 gal.

◈

Harry S. Ivins succeeds S. E. Vance, retired, as Washington, D. C., representative, Warren Webster & Co., Camden, N. J. Mr. Ivins has had more than fifteen years experience in the engineering, sales and service departments of the company and during the War was a mechanical engineer on government construction work.

Robert Heller, a nationally-known industrial engineer and head of his own company of industrial consultants, has been elected a director and member of the executive committee, Jack & Heintz Precision Industries, Inc., Cleveland 1, Ohio.

James C. Martell has been elected vice president, Coastal Oil Co., Newark, N. J. *Nelson L. Ott* will continue in his capacity as vice president and treasurer.

"Best salesman we ever had! First he reads his client's future and gets him so worried he signs immediately!"

You Are Cordially Invited to Visit

The ABC Factory

During Your Stay In Chicago

April 5 - April 8

ABC Oil Burner ®

AUTOMATIC BURNER CORPORATION

1823 CARROLL AVENUE • CHICAGO 12, ILLINOIS

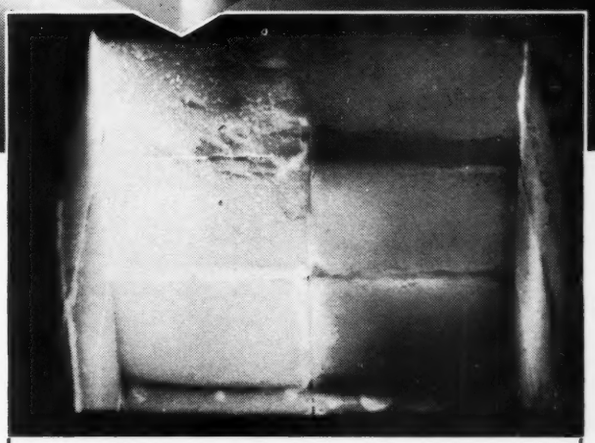
. . . laboratory tests prove

J-M INSULATING FIRE BRICK

get hot faster—save up to 10% fuel

IN A MATTER OF SECONDS, the inside surface of fireboxes built of J-M Insulating Fire Brick reaches white heat. Thus, the burner can reach peak operating efficiency within moments after it goes on. There is no costly waste of fuel bringing the brick up to the right temperature . . . no waste in getting the desired CO_2 . . . and, because of the low thermal conductivity, there is no costly waste in heat loss through the brick. In addition, quick heating retards soot formation. And, this light-weight brick, of cellular construction, provides quieter burner operation.

On the off cycle, fireboxes built with J-M INSULATING FIRE BRICK *cool* faster — an advantage which retards carbon formation on burner tips, reduces the number of annoying service calls.



Test firebox built of J-M INSULATING FIRE BRICK and ordinary dense fire clay brick photographed within seconds after firing. Note the white hot glow from the J-M Insulating Fire Brick on the left while the dense fire clay brick at right is still heating up.

J-M Insulating Fire Brick is easily installed . . . can be cut quickly with a hack saw blade . . . can be used to build any shape or size firebox recommended by the oil burner manufacturer . . . packed in cartons that are light, easy to handle.

FOR SEALING AGAINST GAS AND AIR LEAKS, use J-M FIREITE FURNACE CEMENT. It sets without application of heat . . . is odorless . . . ready mixed and easy to work.

Call your Johns-Manville Distributor for Insulating Fire Brick, Firecrete and other J-M Refractories.

JOHNS-MANVILLE JM PRODUCTS

JOHNS-MANVILLE *First in* INSULATIONS

fuel oil & oil heat

Industry Group

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 20th.

Old Timers To Meet During Chicago Show

APRIL 6 has been selected as the date for a dinner meeting of the Old Timers' Club of the Oilburner Industry, at a place in Chicago to be announced later, to consider plans for the reactivation of the group under a new charter. The meeting, which has been called by J. W. Owens, Chicago, Ill., will be followed by a dinner and entertainment. During the business session, Old Timers will elect a new slate of officers, name directors and appoint appropriate committees. Of prime importance will be the selection of a committee to draw up a formal constitution and set of by-laws, under which the group will function.

Former members of the Club who have not renewed their memberships, or who do not receive a notice of the meeting, are urged to communicate with Jim Owens at 4201 Belmont Ave., Chicago 41, for information and details.

Caldwell Resumes As B.O.D.A. Secretary

AN ANNOUNCEMENT by C. R. Jonswold, president, Burning Oil Distributors Association, OHI Chapter, Chicago 4, Ill., reveals that F. B. "Ted" Caldwell has been reemployed as executive secretary, succeeding Verne S. Follansbee. Mr. Caldwell assumed full responsibilities on March 1.

Pacific Coast OHI Meeting To Be Held On March 27

SPONSORED jointly by chapters in California, Oregon and Washington, the Pacific Coast OHI meeting, originally scheduled to be held March 13, was held March 27 at the Olympic Hotel, Seattle, Wash. The Western Burner & Oil Distributors Association, Sacramento 15, Cal., Oregon Fuel Merchants Association, Portland 4, Oregon and Oil-Heat Institute of Washington, Seattle 1, Wash. will be the hosts.

B. F. Olson, vice president, Sundstrand Machine Tool Co., Rockford, Ill. and A. G. Winkler, president, FUEL-OIL & OIL HEAT, are two of the speakers scheduled. Additional speakers and other features were broadcast to the Pacific coast members of the oilheating industry before the meeting was held.

Wisconsin Group Holds Fifth Industry Rally

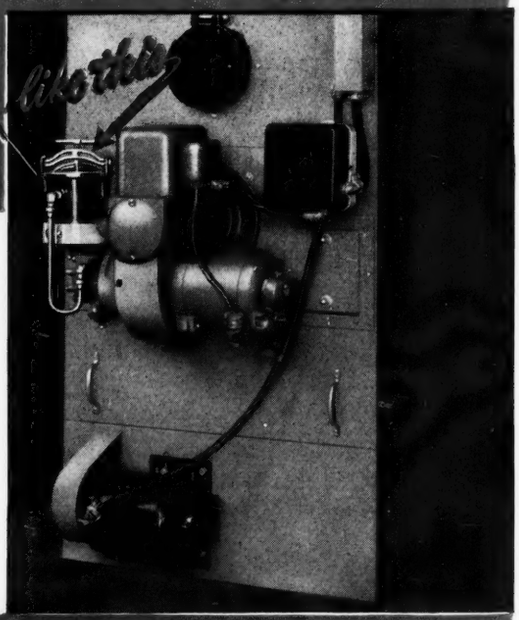
SPONSORED by the Wisconsin Oil-Heat Association, Inc., Milwaukee 2, Wis., a successful Fifth Annual Industry Rally and Dinner was held February 27. The dinner was preceded by a cocktail party and followed by an entertainment program. W. A. Matheson, executive vice president, Eureka Williams Corp., Bloomington, Ill., was the featured speaker and chose as his topic, "Oil Heat's New Look." He discussed the fueloil supply outlook and oilburner sales potentials.

The Association participated in the 1948 Home Show, held in the Milwau-

The General

CAN INCREASE YOUR SERVICE DOLLAR VOLUME WITH INSTALLATIONS

- Make profits on every installation.
- Eliminate troublesome call backs.
- Build regular repeat business through cartridge replacements.
- Help customers save money by giving cleaner burning fuel.
- Build goodwill and customer loyalty by providing trouble-free operation.



General HAS THE RIGHT FILTER FOR EVERY OIL HEATING PLANT!

The *General* is popular with all contractors, dealers and fuel oil service companies because it has proven the best fuel oil filter for heating plants, hot water heaters, and room heaters. The *General* will prove a profitable leader for you, too! Report after report in our files bear out these statements.

For average installations three models, DeLuxe 2A-300, Master 2A-700 and Economy 1A-25, are outstanding leaders in the *General* line because they are priced to sell easily, built to give long-lasting service, and designed to provide high-degree performance.

There is no better time than now in letting *General* Fuel Oil Filters increase your service dollar volume. Contact your jobber immediately or write direct for information and discounts.

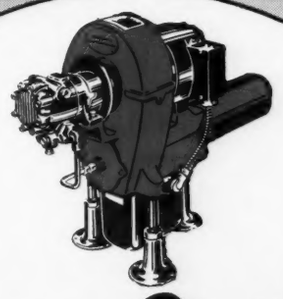
Listed: Re-examination Service, Underwriters Laboratories

GENERAL FILTERS INCORPORATED — GENERAL FUEL OIL FILTER — 12890 WESTWOOD AVE. DETROIT 23, MICHIGAN

CANADIAN FACTORY BRANCH: GENERAL FILTERS CANADA, 173 STRACHAN AVE. • TORONTO 10, ONTARIO

when
the chips
are down
these facts
are
magnified!

An efficient oil burner will use less oil to heat a home at a comfortable 70° than an inefficient burner will use at a shivering 63°



Dealers Who Know Choose
SILENT GLOW
OIL BURNERS

25th year

Be sure to see the complete line of Silent Glow Oil Burners and heating equipment at the Silver Anniversary National Oil Heat Exposition, Chicago Coliseum — April 5-8.

AirSeel

THE OIL BURNER THAT CONSERVES THE HEAT IT MAKES

Silent Glow Oil Burner Corp. FOH-6
Hartford 6, Conn.

Gentlemen:
Let me have the facts at once about a Silent Glow dealership.

Name_____

Address_____

City_____ Zone____ State_____

A Silent Glow franchise may still be available in your community. Contact us at once for complete information.

fuel oil & oil heat

kee Auditorium from March 13 to 20, and distributed 15,000 pieces of literature to interested persons. The Advertising Committee arranged a schedule so that member companies furnished individuals to man the booth at specified hours on all days that the Show was open.

Industry Meeting Held By Massachusetts Group

THE FEBRUARY 17 meeting of the Massachusetts Oil Heating Association, Boston, was an industry meeting to which were invited members of the Oil-Heat Institute of New England and the Independent Oil Men's Association of New England. Featured speaker was Robert Gray, business manager, FUELOIL & OIL HEAT, who discussed "The Real Fueloil Situation," reproduced elsewhere in this issue.

Fred Beckwith, honorary secretary-treasurer, in his regular monthly report revealed a situation whereby local fire officials were refusing to issue oilburner permits, holding that additional heating oil load should not be added with fueloil supply scarce. A legal opinion obtained by Mr. Beckwith expressed the belief that such a practice was illegal and when it was presented to the office of the State Fire Marshal, he asked the advice of the State Supreme Court, and it concurred with the opinion. As a result local officials were ordered to cease refusing to issue oilburner permits, so long as applicants complied with pertinent rules and regulations.

Replacement Advertising Prepared By New England OHI

A SERIES of six newspaper advertisements, offered to its members by the Oil-Heat Institute of New England, Boston 15, Mass., is aimed at securing replacement business. Each advertisement occupies a 2-column, 5" space, with room at the bottom for the individual dealer's name and for any additional statement he may wish to insert. There is supplied also a logotype, identifying the advertiser as an accredited member of the group. Each advertisement is prepared as a separate mat, selling for $1.00 each, or $5.00 for the series of six.

Copy in the advertisements stresses the savings in operating expenses that can be achieved by replacing inefficient, wasteful burners with new models and emphasizes that the change-over can be accomplished in a few hours, regardless of weather. Each carries a reproduction of the Institute seal and all mats contain an offer of a free heating survey.

North Carolina Jobbers Hold Annual Meeting

ON JANUARY 14 the North Carolina Oil Jobbers Association, Raleigh, N. C., held its annual meeting and election of officers and directors. Described as one of the best attended meetings ever held by the group, it adopted a unanimous resolution opposing Government regulation or control of the oil industry, urging all to work toward getting government or Congressional authorities to permit the industry to solve its own problems without interference. A luncheon, attended by the jobbers, equipment men, commission agents and other invited visitors, was featured by an address by Dr. John W. Frey, who discussed some of the factors in the supply situation which precipitated the present

LOST— from the furnace surface

STOLEN— from valves and fittings

WITH the fuel shortage, it's easy to sell your customers on the advantage of covering uninsulated heating surfaces with R & I Stic-tite Insulating Cement—and a nice profit for you.

By covering valves, flanges, boilers, and hot water tanks with Stic-tite, 90% of the heat lost will be saved.

R & I Stic-tite has three times the insulating value, twice the coverage and three times the adhesiveness of ordinary asbestos cements.

Ask your supply house for Stic-tite. Write us for Bulletin I-75.

REFRACTORY & INSULATION CORP.
116 Wall St., New York 5, N. Y.
Chicago 4, Ill., Newark 2, N. J., Philadelphia 3, Pa.

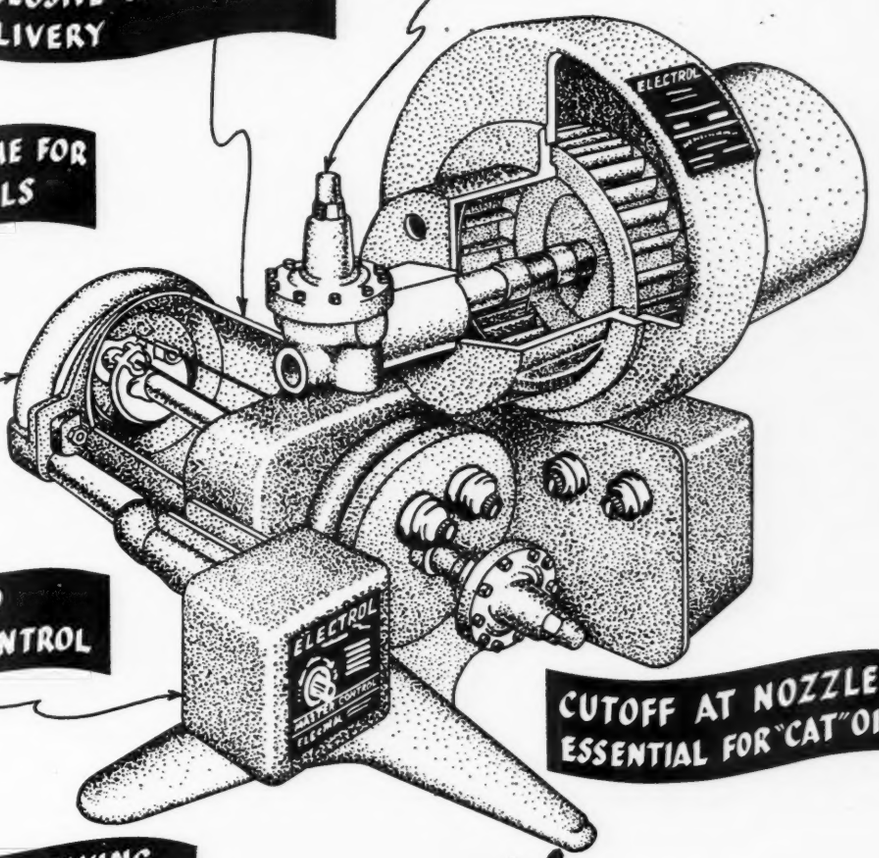
R&I Stic-tite Insulating Cement

More talking points — more sales

DOUBLE SEAL PUMP
STAINLESS STEEL REGULATOR

EXCLUSIVE SPIRALON AIR DELIVERY

BALL SHAPED FLAME FOR "CAT" CRACKED OILS



BURNER MOUNTED SAFETY MASTER CONTROL

CUTOFF AT NOZZLE ESSENTIAL FOR "CAT" OILS

GREATER FUEL SAVING
SMALLER SERVICE COST

PROTECTED TERRITORIES

WRITE FOR DETAILS TODAY

with ELECTROL

TRADE MARK

ELECTROL BURNER MANUFACTURING CO., INC.

22 UNION AVENUE • RUTHERFORD, NEW JERSEY

fueloil & oil heat

emergency in heating and range oil.

The following directors were named for the next two years: C. M. Barringer, R. B. Boren, Jr., S. D. Bryan, Bruce B. Cameron, W. G. Fountain, O. T. Kirkland, T. W. Cracken, C. B. Myers and Earl M. Thompson. Immediately after adjournment of the session the directors met and elected the following officers for the ensuing year: President, O. F. Dumas; vice presidents, R. C. Moore and Forest C. Roberts; treasurer, S. D. Bryan and executive secretary, W. A. Parker, re-elected.

Rochester OHI Urged To Sell, Install Better

FACED WITH THE PROSPECT of dwindling operations because of the fueloil supply situation, members of the Rochester (N.Y.) Chapter, Oil-Heat Institute, met recently and listened to four speakers. G. Fred Laube, newly-elected president of the group, referred to present conditions as a blessing in disguise by forcing a return to selling. District manager for Socony-Vacuum Oil Co., William A. Greeley, predicted that the oil shortage will continue into 1949 and foresaw dealer rationing of gasoline next summer for motorists.

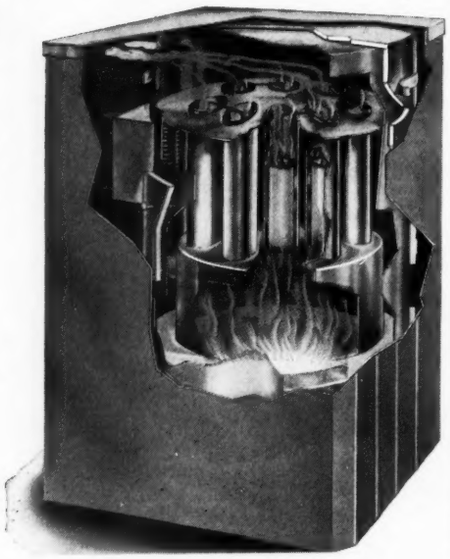
Other speakers were Jay Walsh, retiring president, who called for better servicing of burner installations; Ray Adams, who advocated selling campaigns for replacement of inefficient burners and Larry Williams who urged dealers to broaden their lines of equipment. Linked to the talks was the necessity for dealers to educate the public on conservation of fueloil through higher operating efficiencies and to concentrate on salesmanship practices neglected during the war and in the postwar period.

YOUR BEST BUY IN '48...

ACME DUAL 8

HIGH EFFICIENCY BOILER-BURNER UNIT

The amazing high efficiency of the Acme Dual "8" is due to the engineered design of the Stainless Steel intensifier tubes... which not only act as baffles but also radiate to the heating surfaces of the boiler tubes additional heat taken from the central gases which usually pass on to the chimney as waste. Their design also tends to maintain the same high temperature throughout the length of the tubes thereby producing much faster heating with a greatly reduced fuel consumption.



Beautiful, streamlined green wrinkle finished cabinet with chrome trim. Top covers easily removed for cleaning. Tankless water heater; removable type, 240 G.P.H. High Pressure boiler flues. Blanket insulation, 1½ in. rockwool. Heavy steel fire-box.

All accessories are conveniently and efficiently located on one side of the boiler making installing and servicing a simple task. The cabinet can be assembled after all piping has been completed.

Fast heat! Fast sales! Could you ask for anything better! Exclusive territories are still open for New Dealer Outlets. Write today for catalog and full details. Check the facts and you'll feature the Acme Dual "8" in '48.

ACME TANK AND WELDING

DIV. THE UNITED TOOL & DIE COMPANY

1031 NEW BRITAIN AVE. ELMWOOD, CONN.

Fan Manufacturers Elect Slate of 1948 Officers

AT THE THIRTY-FIRST annual meeting of the National Association of Fan Manufacturers, Detroit 2, Mich., held February 19 at Buffalo, N. Y., the following officers were named for the coming year: R. A. Wasson, president; T. J. Flanagan, vice president and L. O. Monroe, secretary-treasurer, re-elected.

Mr. Wasson is vice president and general manager, Clarage Fan Co., Kalamazoo and Mr. Flanagan is president, Garden City Fan Co., Chicago, Ill.

Approve Third Phase Of ASHVE Research Program

THE THIRD PHASE of a research program on Panel Heating and Cooling, sponsored by American Society of Heating & Ventilating Engineers, New York 10, N. Y., was approved at its February New York meeting. This portion, augmenting previously approved projects involving heat transfer within and behind the panel and heat transfer between the panel surface and the space, calls for a comprehensive investigation on the control of panel heating and cooling systems.

Adopted as a result of recommendations by a technical committee, headed by J. S. Locke, research to be undertaken will include field surveys and tests in various types of buildings and employing all types of heating media. Control procedure will include on-off and continuous operation, with inside and outside thermostats used singly and in combination. Night set-back and other operational details also will be studied.

VISIT WEBSTER ELECTRIC

BOOTH 205

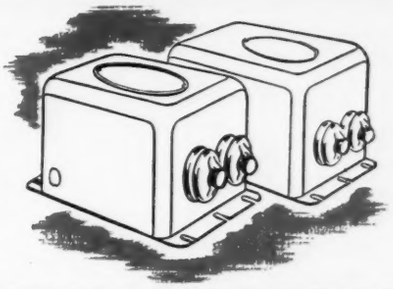
All Latest Improvements

WEBSTER ELECTRIC TRANSFORMERS

Webster Electric engineering skill has perfected this transformer to give satisfaction. As a result, it has become widely known for its dependability and has consistently exhibited quality and sure-fire performance. It is of small, efficient size, is interchangeable, and has convenient primary connections and separate mounting plates for replacement.

Coils are wound with exacting care and are assembled on a core of nonaging laminations. Mica insulation protecting high voltage coils does not lose efficiency with age. The built-in regulation insures ignition of cold oil, even when line voltages are low. A metal shield reduces radio interference to a minimum. They assure you of quality and dependable service.

New...TRANSFORMER STANDARDIZATION



In line with the industry's standardization program, Webster Electric now manufactures ignition transformers in two basic sizes only, both provided with mounting bases for complete interchangeability with transformers that have been in use for as long as 20 years. This ability to interchange is a decided help to service men and manufacturers.

WEBSTER ELECTRIC

New... Thermodrive KIT

This new kit contains all necessary equipment for easy conversion of forced-air heating plants to controlled air circulation as developed by Webster Electric Company with the highly developed Thermodrive.

Thermodrive performance is in line with the principles of the C.A.C. program, as it provides continuous low-speed blower operation between burner cycles when required, and in addition gives increased circulation during periods of burner operation. At all times, Thermodrive automatically controls the rate of circulation in exact coordination with heat output of the furnace.

Thermodrive can be easily installed with a very short period of shutdown, making it suitable to sell the year around.

WEBSTER RACINE **ELECTRIC** WISCONSIN

Established 1909

Export Dept. 13 E. 40th Street, New York (16), N. Y.

Cable Address: "ARLAB" New York City

"Where Quality is a Responsibility and Fair Dealing an Obligation"

Plan Second Short Course On Steam, Hot Water Heating

A THREE DAY SHORT COURSE, sponsored jointly by the University of Illinois and the Institute of Boiler and Radiator Manufacturers, will be held at the University, Urbana-Champaign, Ill., June 15, 16 and 17. The course, patterned after the one held in September 1947, will include both an elementary and an advanced course of study, the latter for students who attended the first short course and who desire advanced work.

The overall purpose of the course is to improve the quality and reduce the cost of hot water and steam installations by providing instruction in simplified, yet scientifically-designed procedures, much of which is based on the I-B-R research program at the University of Illinois. Lectures will include the following topics: Heat loss calculations, blueprint reading, fuels and combustion, panel heating problems, baseboard radiation and a forum period on controls and heat loss calculations. Students, during the period of instruction, will be required to lay out and design various types of systems.

Announcement of the short course will be made to contractors, wholesalers and others on the I-B-R mailing list in the middlewestern states. Information on the course can be obtained from H. C. Rountree, assistant director, Div. University Extension, Illini Hall, University of Illinois, Champaign, Ill.

A COOPER FRANCHISE

WILL BE VALUABLE THIS YEAR TO MANY BURNER DEALERS

•

COOPER HEATMASTER OIL BURNER

A DOMESTIC 1-3 GAL. BURNER WITH AN EXCELLENT EFFICIENCY RECORD IN 3500 HOMES FOR THOSE WHO DESIRE OIL HEAT REGARDLESS OF FUEL COSTS AND QUESTIONABLE SUPPLY.

COOPER ANTHRACITE STOKER

A FULL LINE OF ANTHRACITE STOKERS FROM 5 TO 100 LBS. PER HOUR. THOUSANDS GIVING ECONOMICAL, SATISFACTORY HEAT FOR OVER 15 YEARS. JUST WHAT DEALERS NEED THIS YEAR FOR THOSE PROSPECTS WHO HESITATE BECAUSE OF FUEL COSTS. YOU CAN SHOW A SAVING OF 50% IN COST OF FUEL AT PRESENT PRICES.

YOUR TERRITORY MAY BE OPEN

WRITE—WIRE—PHONE TODAY.

COOPER & COOPER, INC.

37 FENN STREET PHONE 6421

PITTSFIELD, MASSACHUSETTS

Heating Wholesalers Start Inventory Interchange Plan

ANNOUNCEMENT by National Heating Wholesalers' Association, Cleveland 15, Ohio, reveals that its plan of inventory interchange has been placed in operation. Under the system, members of the group can fill their inventory shortages with overages held by other members, and, in turn, can dispose of their inventory overages to other members short in those items.

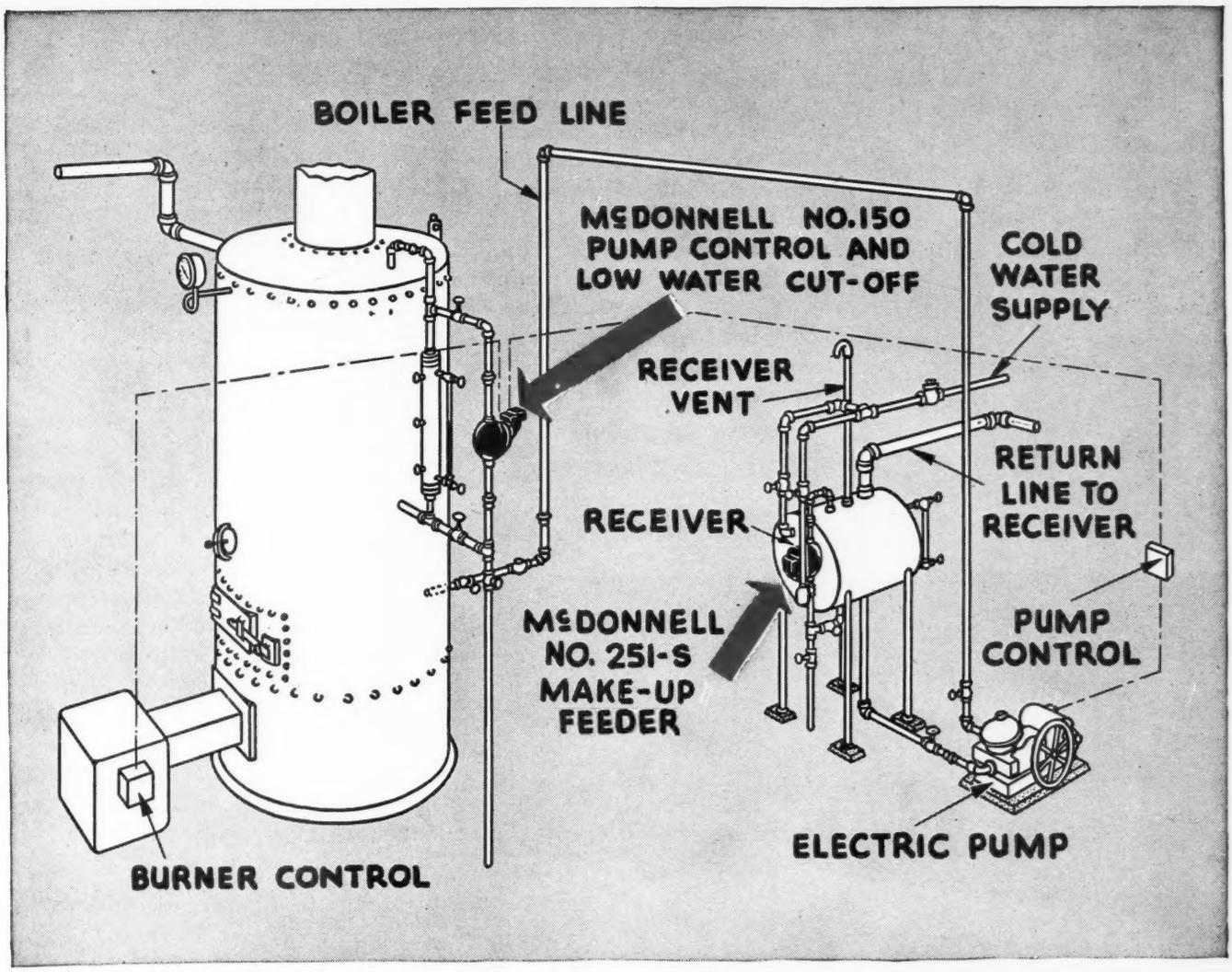
Richard M. Colegrove, executive secretary, announced implementation of the program and pointed out that while the primary purpose is to ease the wholesalers' supply problems, definite advantages also will accrue to the manufacturer by equalizing supply and demand, to the dealer by increasing the number of items readily available and to the public by giving it the benefit of the resources and inventories of wholesalers throughout the country.

Twin City Petroleum Club Meets In Minneapolis

T. H. GEMLO, president, called a meeting of members of the Twin City Petroleum Club on February 20, at the Radisson Hotel, Minneapolis, at 12:15 P.M. The meeting was scheduled to furnish members latest information on the 50 gallon compulsory reconversion program. This program now is in effect in Minneapolis, and the meeting was the initial step in securing adoption of a similar requirement in St. Paul.

◈

Harry G. Smith has been elected vice president and general manager, Smith Meter Co., Los Angeles, Cal. Starting ten years ago in the company's engineering research division, Mr. Smith has held successively the positions of western sales manager and general sales manager.



It will PAY you to study this diagram

It shows the modern way of controlling the boiler feed pump FROM the boiler water level

Owners of high pressure boilers in your community need this modern method of controlling the boiler water level. It not only provides complete protection from low water, it also means dollar saving steaming efficiency through holding the boiler level within close limits. Go after this profitable business. Note how simple and effective this hook-up is:

1. Boiler feed pump is controlled *from* the boiler water level by the McDonnell No. 150. Therefore the boiler water level is held within close limits which assures maximum steaming efficiency.
2. McDonnell No. 251-S on receiver tank assures supply of water to tank in the event of insufficient return of condensate.
3. Extra switch provides circuits for low water fuel cut-off and low water alarm in the event of a blown fuse in the feed pump circuit.

With all conditions provided for, this method means increased efficiency and complete boiler protection. Use coupon to request data book covering this type of control for any plant operating at any pressure up to 150 lbs.

McDONNELL & MILLER, INC., 1310 Wrigley Building, Chicago 11, Illinois

Doing One Thing Well

Your Jobber Sells Them

McDONNELL

Boiler Water Level Controls

Send the data book covering McDonnell boiler water level control.

Name_____

Business_____

Address_____

(If you want recommendation state number and make of boilers, pressure, firing means, present type of boiler feeding, etc.)

Mail to McDonnell & Miller, Inc., 1310 Wrigley Bldg., Chicago 11, Ill.

fuel oil & oil heat

Readers' Forum

SUPERIOR ENGINEERING CO.
Seattle, Wash.

Editor:

It was with great interest that I read the Schultz and Coburn articles pro and con as to the responsibility for the many inefficient oilburner installations we have today.

Both scored some good points in the controversy, but likewise both missed or overlooked one of the most essential factors in the campaign for better installations. *That is Man Power.*

In the good old days when we had oilburner men, it was possible to create and demand responsibility for every phase of the installation and its performance. Now, in this age of specialists, the electrician doesn't give a darn what the fire box man does, and the pipe fitter doesn't give a darn what either of the other two does. Result—we have not developed men who have an over-all knowledge of the art or care to learn.

For this condition the responsibility lies at the door of organized labor. They have promiscuously and haphazardly passed out union cards without any further qualification than the initiation fee. They have forced dealers to engage four men where previously one was sufficient, with the result that all the man learned of the art was limited to the phase of the job he was doing. Under such conditions it has been next to impossible to develop men who would know how to install or service a good piece of equipment if they had it.

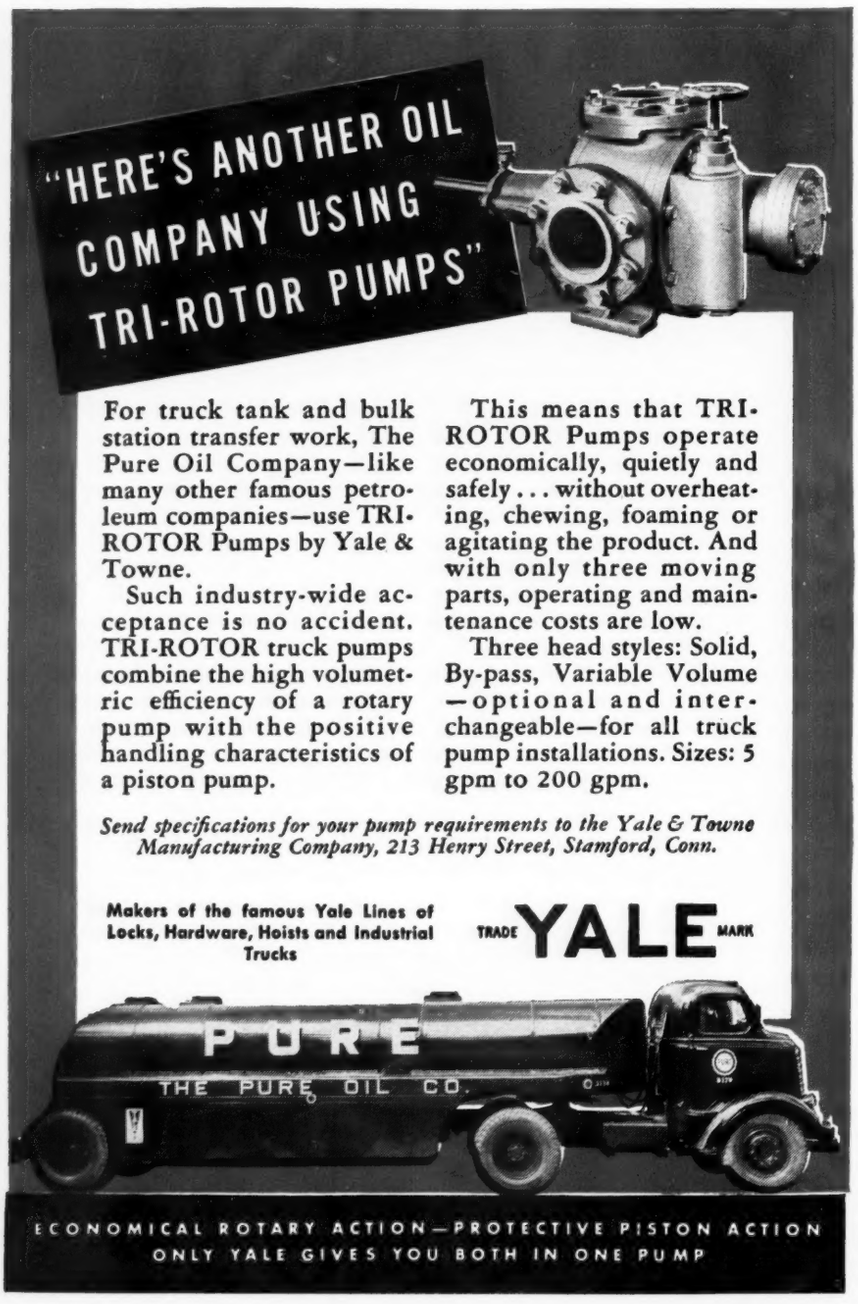
In the old days the service men took pride in tackling the tough ones. Today's attitude is "Oh! that's a low-pressure burner" or "that's a rotary" or "I don't know anything about that kind of a burner; the darn thing's no good anyhow." With such a lack of interest and lack of pride in accomplishment, even though the manufacturers develop and devise improved equipment and methods, they are still at the mercy of the man who carries the tools for its ultimate performance. It's like throwing pearls to the swine in trying to get the proper appreciation or understanding of a new idea.

Suggest Industry Certificate

What can be done about it? Frankly, I don't know. But I do have a suggestion that might be carried out with the help of O.H.I. or FUELOIL & OIL HEAT, and that would be to set up a school, recognized and accepted by the industry, and upon passing an examination by this school, the man would receive a national certificate or diploma. If such a plan were publicized, it might be possible to develop some men and it might attract the type of man essential to this industry. If such a plan is not feasible, why not a questionnaire that the dealer can test the ability and knowledge of his men from time to time. Some standard as to the ability of the service man should be established so we can go after the labor unions and demand that the men they supply come up to these standards.

Until such steps or similar steps are taken to protect the public from the inefficient and lackadaisical workmanship of today, the dealer and the manufacturer both will be deluged with complaints and the oilburner industry as a whole will suffer as a consequence.

J. G FROST.


"HERE'S ANOTHER OIL COMPANY USING TRI-ROTOR PUMPS"
For truck tank and bulk station transfer work, The Pure Oil Company—like many other famous petroleum companies—use TRI-ROTOR Pumps by Yale & Towne.
Such industry-wide acceptance is no accident. TRI-ROTOR truck pumps combine the high volumetric efficiency of a rotary pump with the positive handling characteristics of a piston pump.
This means that TRI-ROTOR Pumps operate economically, quietly and safely . . . without overheating, chewing, foaming or agitating the product. And with only three moving parts, operating and maintenance costs are low.
Three head styles: Solid, By-pass, Variable Volume—optional and interchangeable—for all truck pump installations. Sizes: 5 gpm to 200 gpm.
Send specifications for your pump requirements to the Yale & Towne Manufacturing Company, 213 Henry Street, Stamford, Conn.
Makers of the famous Yale Lines of Locks, Hardware, Hoists and Industrial Trucks
TRADE YALE MARK
PURE
THE PURE OIL CO.
ECONOMICAL ROTARY ACTION—PROTECTIVE PISTON ACTION
ONLY YALE GIVES YOU BOTH IN ONE PUMP

To get what you want...

Sell what they want

Stokol has it!

Yes . . . Stokol offers you a line of heating products built around "big volume" models —those units and sizes in greatest demand.

And when you feature the Stokol line, you are assured of the extra profits made possible by offering a "big volume" line under a single nationally accepted name. Your sales story is always the same . . . sales are easier, faster!

You have the answer . . . regardless of the fuel your customer prefers. Popular sizes of oil- or gas-fired winter air conditioners, conversion oil burners, stokers, and oil-fired and stoker-fired water heaters—*you sell them all!* And you can also sell the big industrial stoker market!

Remember, too, that this great "big volume" line is backed by Stokol precision engineering and volume manufacturing. That means you can install any unit quickly and easily. You are assured of utmost customer satisfaction . . . with minimum service calls. All this adds up to faster, surer, better profits for you!

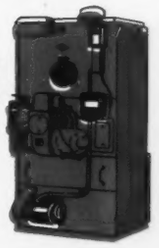
More than that, Stokol backs you with sales-producing national advertising and merchandising programs designed to help you make more sales, more money.

A few choice Stokol territories are still available—so investigate! See your nearest Stokol distributor today or mail the coupon below.

Oil-fired winter air conditioners—4 models; 70,000 to 160,000 BTU.

Oil-fired budget furnaces—2 models; gravity-type and winter air conditioner; 50,000 and 56,000 BTU.

Oil-fired winter air conditioner—economy model; 70,000 BTU.



Oil-fired boilers—3 models; 460 to 920 EDR Steam.

Gas-fired winter air conditioners—4 models; 70,000 to 160,000 BTU.

Conversion oil burners —2 models; 1.35 to 4.50 g.p.h.

Oil-fired water heaters —3 models; 20, 30, and 45 gals.

Hopper- and bin-feed stokers—22 domestic and commercial models from 20 to 1000 lbs. per hour. Also stoker-fired water heaters—2 models: 60 and 90 g.p.h.

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Investigate STOKOL opportunities!

Investigate the profit opportunity Stokol may hold for you—in your own territory. A few Stokol franchises are still available. For details, see your nearest Stokol distributor or mail this convenient coupon! Don't delay! Do it *today!*

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fuelail e oil heat

MAIL THIS COUPON!

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2060 Northwestern Ave.
Indianapolis 7, Indiana

Yes . . . I'm interested in learning more about the Stokol franchise in this area. Please send me the facts, together with the name of my nearest Stokol distributor, who will supply complete details.

Name.....

Address.....

City.....Zone....State.....

PENN BOILER AND BURNER MFG. CORP.
Lancaster, Pa.

Editor:

Publication of the following letter in your Readers' Forum column will help, at least as far as the industry is concerned, to correct an erroneous impression created by a recent newspaper story about this company.

We always thought that a man had to bite a dog to make news but, after our experience, this week, we find that if an oil burner company, in an effort to help the local oil situation, converts its heating from oil to coal, it becomes national news. Worst of all, by the time the "rumor mongers" got the story past the local area, they had told the surprised world that Penn Boiler & Burner Mfg. Corp. had decided to get out of the oil business and start making coal burning equipment!

We didn't realize the seriousness of this news story until we began getting calls from as far away as Seattle, Washington, asking us if there was any truth to the news broadcast, news story, etc., that Penn is out of the oil burner business. Hence, this letter to straighten things out.

The true story is this. Locally, oil is tight. Our plant uses approximately 5,000 gallons per week. Some of the local owners of Penn Packaged Heat were faced with prospects of being without oil. We decided to build coke salamanders to tide us over the balance of the winter and release our oil to the local home owner who, in the long run, is our bread and butter. It was felt this was a good move, locally. We never dreamed it would be grabbed up and garbled by the UP and AP and news broadcasters.

Penn is in the automatic heating business to stay. There's a future there. Let's capitalize on this unexpected national publicity by telling the true story of Penn's "conversion from oil to coal."

R. L. ERLEWINE.

A. B. CUNNINGHAM & SON
Baltimore, Md.

Editor:

I have read with considerable interest the articles by L. A. Schultz and A. E. Coburn, entitled "It is the Manufacturer's Job" and "It is up to the Dealer," respectively.

I quite agree with Mr. Schultz generally speaking in that the distributor and manufacturer is largely responsible for oil burning equipment, which operates poorly, inefficiently, or not at all. It is probably true that there are some irresponsible dealers who do not care whether their jobs are right or not. However, it is my experience that most dealers want to do a good job. If dealers are handled by responsible distributors and manufacturers, they can be taught how to get out of their troubles. If they refuse to do good service, then they can be defranchised. But only distributors and manufacturers who care themselves will do this.

By far the greatest cause for installation of poor oilheating jobs, is the fact that far too many distributors and manufacturers sell equipment direct to builders and contractors for installation in new houses. People who do this, probably do so with the wish and hope that someone will put the equipment in and make it work. I don't doubt that every oil

(*Continued on page 110*)

BETTENDORF *oil burners*

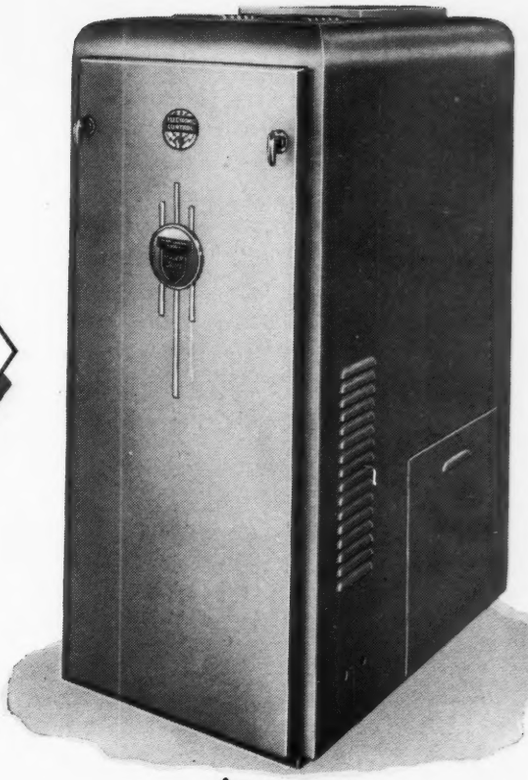
The high standard of materials and precision of manufacturing incorporated in Bettendorf Oil Burners assure profitable sales and customers' good will. During the process of fabrication, Bettendorf burners must meet rigid requirements covering machining and assembly operation. Every burner fire tested before crating. For profitable sales, select the Bettendorf Oil Burner.

BETTENDORF OIL BURNER COMPANY

Marshalltown, Iowa

NEW Master Kraft Warm Air Conditioner Model W-75 and W-100 — handsome, efficient, *packaged* units — reach you all assembled, wired, and ready to fire. Of course they are equipped with Electronic Control and Dual-Oxenizer. We are now in production on these models.

Larger models up to 200,000 BTU will be available.



PATENTS APP. FOR

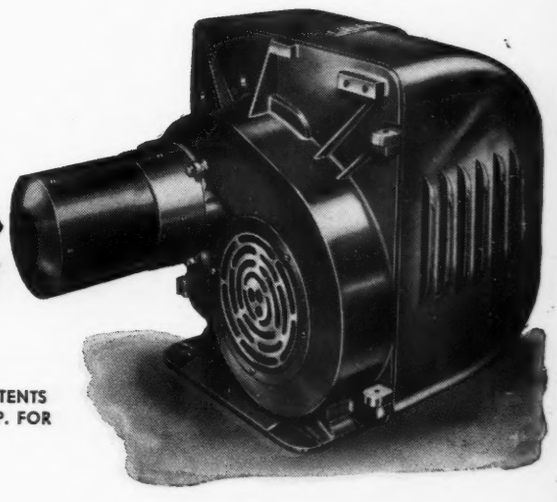
PATENTS APP. FOR

The new Master Kraft Sun-Blaze packaged boiler unit comes to you all assembled, wired, and ready to fire. Now available for immediate delivery in two models up to 450 feet of steam and 720 feet hot water. Larger models will be available.

When shipped from the factory as hot water boiler the circulator is included, all mounted and wired.

INC.

The new Master Kraft conversion burner has Electronic Control, the Dual-Oxenizer, and Quick-Change service features. This burner is giving from 13% to 15% CO_2 in many installations in various parts of the U.S.A. You will have to see this new postwar burner perform—to really believe the exceptional combustion efficiency it can deliver. Burns catalytic oils as easy as any thermal cracked oils. Some homeowners report up to 50% savings on replacements. (Testimonial letters available on request.)



PATENTS APP. FOR

Readers' Forum

(*Continued from page* 106)

burner man in the business has at some time "wished" that a job would work. However, it takes something more than wishing to make some of them work. Contractors and builders usually never even bother to wish that they work and are gone when the trouble starts with their money in their pocket for the house they have sold to some poor guy, with an oil burner installed with no service arrangements on it. Dealers don't care much to service these jobs since they are usually half sore because it was direct business with no dealer profit in the first place. Finally some jack-leg winds up trying to make a bum job work, about which he lacks knowledge generally. The result is another job taken out and replaced with gas or coal. I don't blame a user for not putting up with this kind of thing.

This "over the counter" selling of oil burning equipment at below dealer prices does more damage to the industry than everything else put together. It does no good to promote good service and efficient operation as long as this kind of thing progresses in the industry. Until it is eliminated, I cannot see much relief from poorly designed oil-heating jobs and inefficient burner operation.

W. E. CUNNINGHAM.

North Hills, Pa.

Editor:

AMEN—meaning that I am in accord with the reasoning in Mr. Schultz' article in February FUELOIL & OIL HEAT (page 70). Many years from now we will look upon this 1948 fueloil famine as a boon to the industry; showing in bold relief as it does, the sinful inefficiencies of the poor burners and cheap installations that have been foisted upon the public by opportunist manufacturers and dealers. Mr. Coburn's rebuttal, too, expresses mature consideration for the merchandisers and together these two timely articles point up the fact that we need closer integration between the builder and the retailer of oil heat equipment.

I move that we assume as our responsibility the setting of every burner within the ken of our daily routine, to a minimum of 8% CO_2 for fires up to 1.5 gal. per hour—10% CO_2 up to 5 gal. per hr. and 12% CO_2 above 5 gph, with a maximum stack temperature of 750° for all firing rates, and, where the equipment will not respond to such adjustment without smoking that dealers and manufacturers cooperate toward its attainment, or remove the equipment.

CHAS. W. FISHER.

The following letter is presented, despite a rigid policy against publishing anonymous communications, because it presents the consumers' side of the oil controversy—and presents it very well. The writer obviously has considerable knowledge of the oilburner and the oil industries.

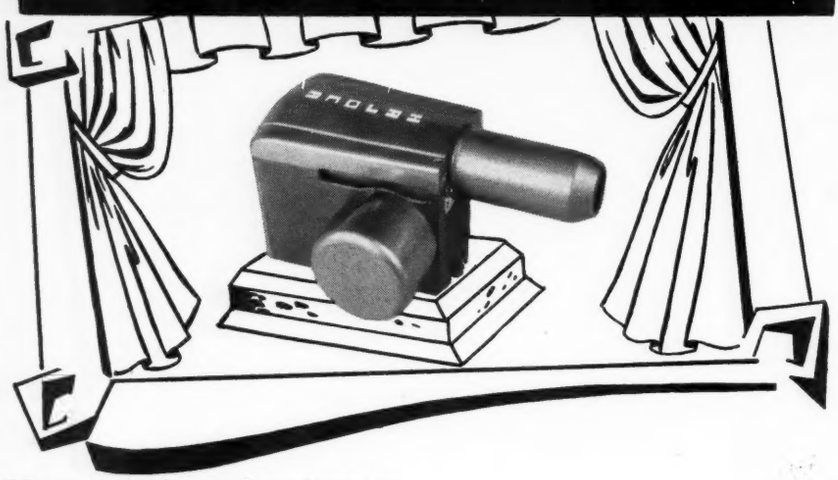
Editor:

I can't take time off from farm chores very often to write letters to the editor, but this oil situation has got me so hopping mad I feel I better do something about it before I burn my barn down just for spite.

FIRST SHOWING

The NEW IMPROVED **HAJOCA OIL BURNER**

at the CHICAGO OIL HEAT SHOW



***New* in design and engineering . . .**

Newly developed head and blast tube, fan, and scroll . . . cast aluminum body . . . new plastic insulated leads . . . unique transformer cooling . . . parts fully protected.

***New* in efficiency . . .**

Burns both "Thermal" and "Cat-Cracked" fuel oil efficiently . . . compact, cone-shaped flame . . . uniform and thorough Fuel-Air Mixture.

***New* in operating simplicity . . .**

One moving part . . . ONE adjustment compensates for 1 to 2 G.P.H. nozzle sizes . . . tamperproof Micrometric air adjustment.

***New* in maintenance economy . . .**

Parts easily accessible . . . no special tools . . . wiring connections and fuel pump inspection while burner is operating . . . standard parts.

APPROVED BY UNDERWRITERS' LABORATORIES, INC.

Yes, the New HAJOCA Oil Burner is a beauty from all angles. Be sure to see it at the Oil Heat Show in Chicago, April 5th to 8th. You are cordially invited to visit our Booth No. 613 at the Colosseum.

WRITE FOR SPECIFICATIONS AND FULL DESCRIPTION OF THE NEW HAJOCA OIL BURNER.

HAJOCA CORPORATION

31st and Walnut Streets — Philadelphia 4, Pa.

Serving the Industry Since 1858

Iron Foundries: Lansdale, Pa. Quakertown, Pa.

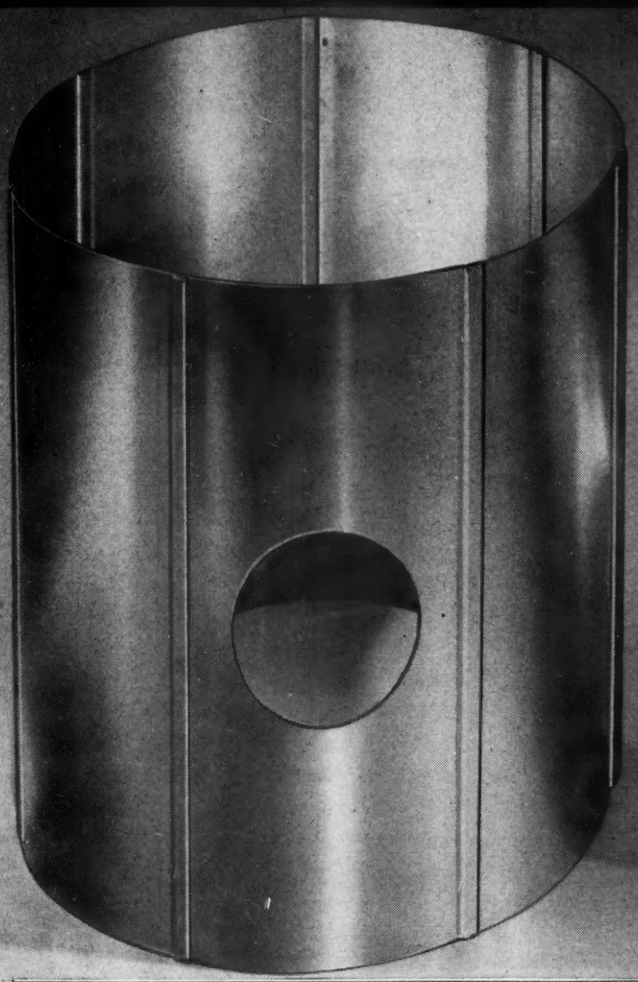
Brass Works: Lansdowne, Pa.

Oil Burner Mfg. Plant: Lansdale, Pa.

HEAT-RESISTANT STAINLESS STEEL

PANELOX (Trade Mark Reg.)

COMBUSTION CHAMBER FOR OIL BURNERS



Installed in *minutes!*
Heats up in seconds!
Stands up for *years!*

Patent Applied for

Here's the heat-resistant, stainless steel combustion chamber you've waited for—hoped for. A chamber that would heat up fast—and stand up for years. This is it—the new, revolutionary PANELOX.

See that time and temperature chart? It shows the results of an actual test. Within 15 seconds after the burner came on, the temperature in the PANELOX had already reached flash point. And within another 45 seconds it was over 1000° F.!

You know what that means—almost *instant* combustion. No minutes-long warm-up period. And that's why the PANELOX eliminates "blow-torch" starting roar, turbulence noises, and smoke, soot and oily film caused by inefficient combustion.

EASILY, QUICKLY INSTALLED! *No backfill insulation—no cementing—no tools! Assemble panels through fire door in 10 minutes or less.*

INTERLOCKING SEAMS! *An exclusive PANELOX feature. Adds great rigidity and structural strength—prevents warping. No dead air spaces.*

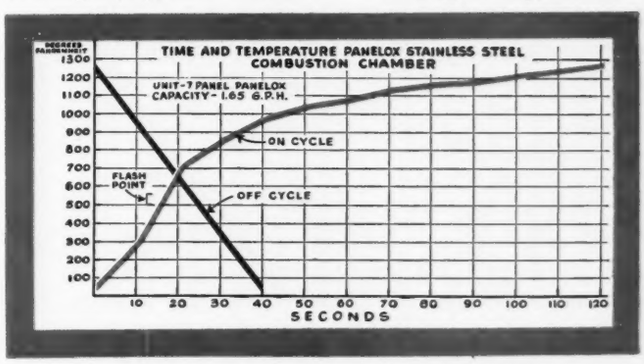
Made of finest heat-resistant stainless steel, the PANELOX withstands extreme temperatures. Easily installed in a matter of minutes—just two types of interlocking panels required for any size or shape chamber. "A" panels are standard, "B" panels have 4", 5" or 6" hole for burner gun. Light weight, easy to handle, no breakage!

From now on, the PANELOX sets the pace. So get all the facts. Write, wire or phone for full details and prices.

SEE US AT BOOTHS 113-115 AT THE O.H.I. SHOW, APRIL 5-8

STEFCO STEEL COMPANY

Heating Equipment Division • Michigan City, Indiana



TESTS PROVE THE PANELOX HEATS UP FAST. *The Graph above shows results of an actual test. Ordinary fuel oil was used in a 7-panel PANELOX—1.65 G.P.H. Burner was a standard nationally known domestic model.*

I was astounded recently—and I am sure countless users and prospects for oil burners were too—to hear a reputable radio newscaster reporting a conference between Secretary of the Interior Krug and major oil industry executives in which the suggestion had been made that a directive be issued prohibiting the manufacture and installation of additional oil burners. One guess is all you need to decide which side of the conference table that suggestion came from!

It is preposterous that responsible major oil company executives could have made such a suggestion. It appears to be a repetition of their policy of throwing the oil burning public to the wolves as soon as the going gets tough. There may have been some justification for such a drastic directive during the war, but what place does such a suggestion have in 1948? Has the oil industry suggested that no more automobiles be sold because the gasoline supply is short too? Or that we all should turn off our electric power because power companies are desperately pressed to keep abreast of the demand for their kilowatts?

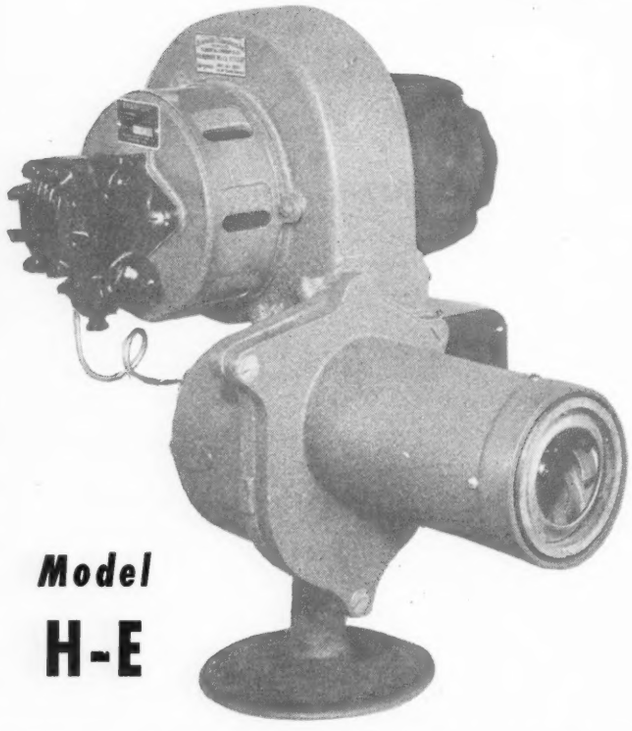
Ah yes, I know all the defensive alibis the boys in the back room have passed out to their skilled publicity men—that we are drilling more wells than ever before, that we are refining more heating oil than ever before, that transportation facilities are inadequate, and so on ad nauseam. I've been heating with oil in several parts of these United States since 1923, and unless my memory fails me, the major oil companies are still playing the same oil record in defense of their shortsighted indifference. As soon as the coal companies gave up their competitive defense theme that the oil supply would soon be exhausted, the oil companies took over as disc-jockey and since then, with all too few exceptions, they've been playing the aria of shortage with all stops pulled out.

Those of us who have watched the development of the oil burner from a novelty to an essential piece of equipment in any well planned home, have been shocked at the apparently callous indifference of most major oil companies to this steady contributor to the profit side of their balance sheets. There have been exceptions, notable ones, but for the most part they have just let the market grow without much nourishment, and only feeble assistance. They consider gasoline their "money crop" and they have plowed much money and skill into improving it and developing a market for it over the years. Heating oil was just a hardy old volunteer crop that came up and flourished over in that rocky far eighty, with scant attention on their part.

I'd like to suggest to the oil companies that they take a look at their balance sheets. Is gasoline the "money crop" you like to think it is? Sure it puts your name in fancy neon signs over pumps and buildings on street corners and along the highways, and it blares your name from tap room and kitchen radios. But does gasoline *alone* pay for all this attention and publicity you give it? Don't you doubt it, too? In this area regular grade gasoline brings 22.8¢ per gallon at the service station pump. But that hardy old volunteer crop (heating oil) brings 11.2¢ per gallon delivered to my tank.

25 YEARS OF ACTUAL FIELD EXPERIENCE HAS ENABLED US TO PRODUCE THE

NEW BRANFORD



Model H-E

Branford Model H-E Oil Burner Combines These Features:

1. **High efficiency at low firing rate.**
2. **One-half gallon of fuel per hour up to 4½ gallons.**
3. **Flange mounted or base mounted.**
4. **Extra compact in size — projecting only 11 inches from boiler.**
5. **All pulsation, vibration and rumbling eliminated under normal operating conditions.**
6. **Parts instantly accessible.**

•

Range of firing 1 gal. to 18 gal. with just two models. Branford Model "H-E" and "D-O."

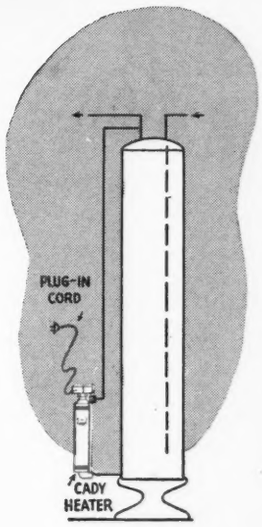
SOLD THROUGH PLUMBING AND HEATING JOBBERS.

•

Manufactured by MALLEABLE IRON FITTINGS CO., Branford, Connecticut

HERE'S AN *Easy Set-up* FOR ADDED SALES in the warm air furnace market!

AN ELECTRIC WATER HEATER *that you can install*



- **NO NEW WIRING NEEDED**
- **ONLY 2 PIPE CONNECTIONS**
- **DESIGNED FOR ANY 5 TO 30 GALLON TANK.**

THE NEW CADY ELECTRIC WATER HEATER offers you a worthwhile opportunity to get an added share of business in the warm air furnace market. It's fast-selling because it's low-cost, clean, odorless, trouble-free, dependable and economical. A money-maker, because it's so easy to install. All you do is connect two ½" pipes to the range boiler, and plug it into any 110-120 volt A.C. wall outlet.

The Cady Water Heater is a quality product throughout. Heating element approved by Underwriters' Laboratories. Copper and brass waterways throughout. Fiberglas insulated metal jacket. Positive, built-in automatic control. 1000 watt heating element. 6-foot plug-in cord. Recovery rate: 5 gallons per hour, 80°F. rise. Temperature adjustable 80° to 180°. Size 4½-16½" overall. Write for full particulars. THE CADY COMPANY, Dept. O, 123 Georgia Avenue, Providence 5, R. I. (Subsidiary of General Fittings Co.)

Visit Booth 326 at National Oil Heat Exposition, Chicago.

AUTOMATIC CADY ELECTRIC
WATER HEATER

Based on cost of refining it I think that is a right good price, when some one else has all the headaches of distributing it. Some of this stuff we are getting is pretty bad, and it seems to me that 6¢ per gallon for BS&W and Tank Bottoms is a whale of a price. But we will pay it with only mild grumbling if the oil companies will only let us have it.

We users of heating oil feel that the oil industry has seriously imperiled its customer goodwill. We are all adult, and if oil companies knew they were going to let the supply of fuel oils be critical this winter, why were we not told the facts and our cooperation asked earlier? Why wait until we are in the midst of a cold winter and then try to place the responsibility on some one else? There's very little opportunity for individual householders to hoard fuel oil, so there would have been no panic buying had they come out with such honesty in the Fall. Surely with the weather bureau, and private concern specializing in long range forecasting, this severe winter didn't just sneak up on the major oil companies. Why even my Old Farmers' Almanac knew this would be a long cold white winter—and said so.

Where were the oil companies last summer when all the new oil burners were being sold? It was no secret, as oil burner advertising was telling the whole wide world about the whopping volume of new burners that had been made and sold. The oil companies must have known customers were not just storing 'em in their basements. Haven't oil companies got some responsibility to make more heating oil if more people want the stuff? Oil burner manufacturers by their toil and sweat, build the oil companies a really profitable market and lay it in their laps. Can they continue to say "Sorry, we'd rather make gasoline?" If this keeps up, can government regulation of major oil companies be ill-advised? The health and economic welfare of the country is at stake.

Now at the end of January, after Governors, Mayors and Congress have demanded action, comes a big headline in New York papers saying "Gasoline Cutback Ordered To Step Up Fuel Oil Output." The four point program just announced calls for a 60 day refinery changeover to cut back gasoline manufacture and step up fuel oil output, a seven day week for workers loading and unloading fuel supplies and a pooling of petroleum supplies and transportation facilities. Yes, a very dramatic headline to shivering tenants of oil heated homes. But let's be realistic. Who is kidding who? When you analyze those points listed above, couldn't all but the last one have been put into effect individually by major oil companies last Fall and thus have avoided this crisis? It would not have made big headlines then and wouldn't have given the impression that just when the situation was desperate and we appeared headed for collapse, in jumped the major oil companies and with complete unselfishness and an utter abandon of profits and dividends, and rushed to save the country from disaster. Some of us would have been more impressed with foresight and integrity of the major oil companies if those headlines had been written 60 days ago. It has been a good many years since a sur-

Here's Your Invitation...

Come In and See Us

at the

Kleen-Heet Factory

During Your Visit

to Chicago

April 5 - April 8

Kleen-Heet INCORPORATED

1829 CARROLL AVE. • CHICAGO 12, ILLINOIS

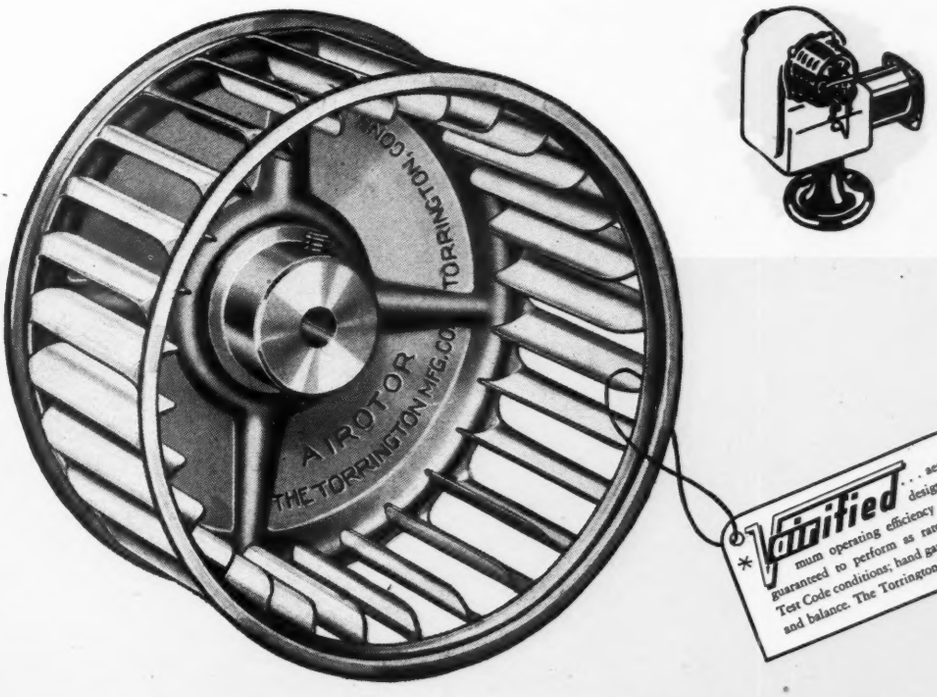
QUIET at ANY BURNING RATE with TORRINGTON VAIRIFIED* AIR IMPELLERS

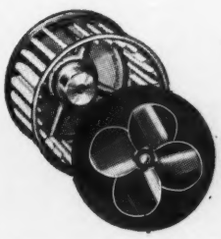
Adjusted for a burning rate of 2 to 3 gallons per hour, an oil burner gave excellent performance in every respect. But when set for a lower consumption, noise became a problem.

Study by Torrington's air impelling engineers disclosed that by using a smaller size Airotor blower wheel for the lower burning rates, the noise problem was eliminated. With slight, inexpensive housing modifications, the use of Airotor wheels in two sizes was entirely practical.

Why not benefit from the advantages of Torrington Air Impellers and our years of research experience? We can help you most when your product is *in the early stages of design.*

Sales engineers in all principal cities.





*Vairified . . . aerodynamically designed for maximum operating efficiency with quietness; guaranteed to perform as rated under NAFM Test Code conditions; hand gauged for alignment and balance. The Torrington Manufacturing Co.

THE TORRINGTON MANUFACTURING COMPANY, TORRINGTON, CONNECTICUT

plus of heating oil has permitted any sales below the posted price. But one does not have to look very far back to recall when bulk storage over most of the country was overflowing with high octane gasoline, and sales were being made at any old price buyers offered.

So come on you oil burner manufacturers and Oil-Heat Institute—get in there pitching, please. Don't let the oil companies throw us to the wolves and abandon us to the vagaries of John L. Lewis. We may not write you fan letters but that satisfied contented look on our faces is directly traceable to the smooth-running dependable oil burner that purrs along through the winter in our basements. We know that the inventive genius and rugged individualism that brought us the comfort and convenience of an oil burner can lick the casual indifference of those who have pocketed the profits ever since you installed it.

Yours for fewer alibis and more fuel oil.

THE MAD HERMIT OF JERSEY

Size of Suction Lines

Here's a good rule for selecting the proper size suction line for installations which have exceedingly long lines connected to outside tanks. Often the rule helps solve the problem of which suction line size to use for a large pressure burner from seven to fifteen gph.

Don't install a suction line of such small size that because of the resistance of the line the vacuum at the pump inlet exceeds 10" mercury.

Where because of high lift from the oil tank the pump vacuum exceeds 10", of course the use of a suction line of insufficient size is not to blame.

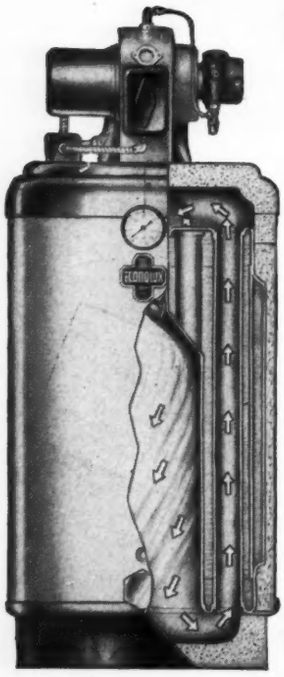
In planning an installation, try to check back on old similar installations when questions arise regarding suction line size. If your old installations give pump vacuum lower than 10", use the same size suction line for your new jobs. But use larger suction lines for your new jobs if your old ones show higher than 10" vacuum at the pumps, and if this is caused not by high oil lift but by small size of the lines.

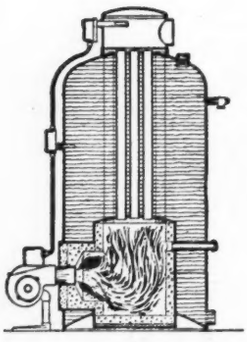
Raymond T. "Shep" Doherty has joined the General Div., York-Shipley, Inc., manufacturer of automatic heating equipment, as supervisor of sales to manufacturers and national accounts. Mr. Doherty entered the heating industry in 1928 and has been prominent since then as a sales engineer and executive. In 1942 he volunteered for service in the U. S. Army Air Forces and was active in the European theater until 1946. He holds a commission as Lieutenant Colonel in the Air Reserve.

Ernest Karbe, Buffalo 15, N. Y. and *E G. Koyl,* Winter Park, Fla., have been named representatives by Catskill Metal Works, Inc., Catskill, N. Y. Mr. Karbe will operate in the western section of New York, and the northwestern counties of Pennsylvania and eastern Ohio. Mr. Koyl's territory will embrace the entire state of Florida.

MAKE IT A POINT TO VISIT THE JOHNSON OIL BURNER *Exhibit*

AT CHICAGO, APRIL 5-8 IN BOOTH 535





This year, when fuel economy is uppermost in everyone's mind, it will be doubly worth your while to see the Johnson Display in Booth 535, featuring our famous:

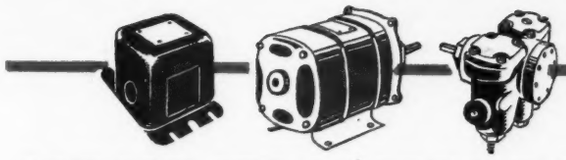
- **ECONOLUX** HEAT-and-HOT WATER UNITS
- **AQULUX** AUTOMATIC WATER HEATERS
- **BANKHEAT** PRESSURE-TYPE BURNERS

Our exhibit will also include Rotary-Type Heavy-Duty Burners. Come and see for yourself why Johnson Burners consistently produce *more heat from less oil.* We will be happy to welcome you.

Johnson Oil Burners

Builders of fine Oil Burner Equipment since 1903

S. T. JOHNSON CO.
940 Arlington Ave., Oakland 8, Calif.
401 No. Broad St., Philadelphia 8, Pa.



YOUR TRANSFORMER MOTOR AND PUMP

Installed By Us On The Improved

FIRE BALL CHASSIS

with the

SHELL DEVELOPED AUTO HEAT COMBUSTION HEAD

LOOK FOR THE SIGN OF THE OIL SAVER

Means 20% Greater Efficiency from any Oil Burning System

Today's fuel oil shortages make economy more important than ever before. Converting to FIRE-BALL helps to conserve by making it possible to obtain from every gallon the heat units normally delivered by 5 quarts of fuel oil. Dealers everywhere are switching to AUTO-HEAT for faster, more profitable sales and guaranteed owner satisfaction. And because we install YOUR Motor, Pump and Transformer, the FIRE-BALL is rated as the ideal replacement unit.

WRITE, WIRE or PHONE ABOUT THIS SERVICE

Valuable AUTO-HEAT FRANCHISES Available

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"TOP QUALITY OIL HEATING SINCE 1926"

311 WEST 66th STREET — NEW YORK 23, N. Y.

TRafalgar 3-1700

Manufacturers Of The Famous

AUTO - HEAT

FIRE-BALL BURNER
STANDARD BURNER

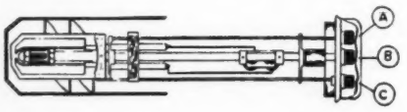
All Steel Burner-Boiler Unit
Double-Duty Air Conditioner

fuelsil oil heat

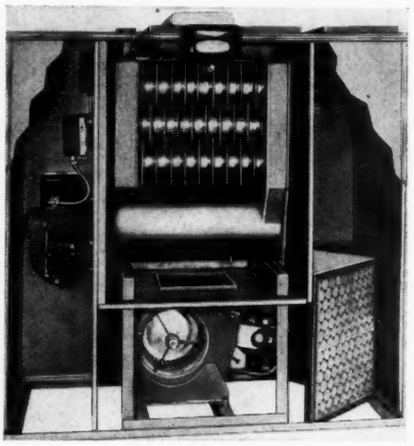
New Products

Eckhart Burner Spiralator; Oilfired Winter Conditioners

TWO NEW PRODUCTS have been introduced recently by Eckhart Mfg. Co., Roselle, N. J. The first, a Cat-Comb Spiralator, is a complete burner head and jet line assembly arrangement which permits external adjustments for burning catalytically cracked fueloils. Three knobs make adjustments to change vacuum breaker disc settings, adjust nozzle position without disturbing disc setting and secondary air discharge area and adjust secondary air discharge area. It is furnished with phosphorous bronze spring clip ignition connections, permitting removal for inspection by sliding through the back plate opening.



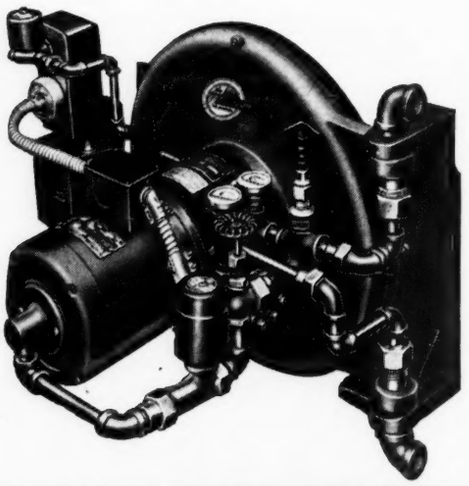
A line of oilfired winter air conditioning units, also announced, features finned tube heat exchangers, and are fired with gun type burners equipped with the Spiralator. A total of eighty-one fins are bonded on nine 3" heater tubes to provide a generous, but compact, heating surface. At the back of the heat exchanger assembly is located a panel which exposes the combustion chamber, baffle and finned tubes for inspection or cleaning. Position of the blower under the combustion chamber affords direct impingement of air through the heat exchanger system. Gases from the burner are spread by a baffle in the combustion chamber, and the direction of travel then reversed three times through the tubes. As a safety precaution all air heating surfaces are on the pressure side of the conditioner to eliminate possibility of circulating toxic combustion gases in the air stream. Air flow is based on an aero-



dynamic principle whereby high velocity air uniformly wraps around each cylinder for maximum heat transfer. Four models range in maximum bonnet capacities from 82,500 to 154,687 Btu/hr.; 70,125 to 131,483 Btu at the register. Each unit is equipped with two replaceable air filters and an evaporator unit for effective humidification.

OIL BURNING EQUIPMENT
You Can Recommend with Confidence
FOR PERFECT HEAVY OIL BURNING UNDER ALL OPERATING CONDITIONS

Ace UNIFLOW OIL BURNERS
HORIZONTAL ROTARY

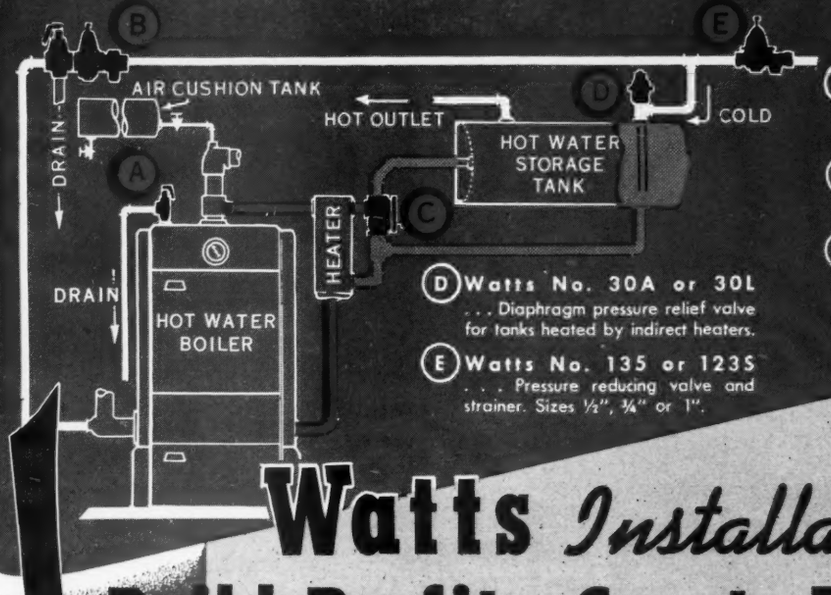


Visit Us At Booth 321 National Oil Heat Exposition

Capacity Ranges

	GALLONS PER HOUR	BOILER H.P.	SQUARE FEET STEAM RAD.
MINIMUM	2	6	800
MAXIMUM	165	500	64,000

ACE ENGINEERING CO.
1435 W. 15th Street • Chicago, Illinois
Custom Engineered Oil Burning Systems Since 1931



VALVE SPECIFICATIONS

(A) Watts No. 40L or 40XL . . . Self-closing temperature relief valve with poppet action pressure relief in same unit.

(B) Watts No. 38 or 45 . . . Feed water regulator unit with A.S.M.E. std. diaphragm pressure relief valve.

(C) Watts No. 73 . . . Circulation controller directly controls tank water temperature below 160°F.

(D) Watts No. 30A or 30L . . . Diaphragm pressure relief valve for tanks heated by indirect heaters.

(E) Watts No. 135 or 123S . . . Pressure reducing valve and strainer. Sizes ½", ¾" or 1".

Watts *Installations*

Build Profits-Create Friendships

FOR THE PLUMBING and HEATING TRADE

Watts efficient and economical installations make fast and lasting friendships, and assure profit to the seller.

If you want to render real service to your customers, turn to the Watts line.

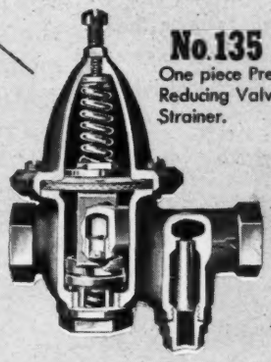
There is a Watts quality valve for most of your plumbing and heating needs.

Check with us today.

NATION WIDE • PROTECTION-CONTROL •

No. 40L
"Autotherm" Temperature and Pressure Relief Valve.

No. 45
Dual Control Regulator Unit.



No. 135
One piece Pressure Reducing Valve with Strainer.

No. 30
Pressure Relief Valve.

No. 73
Circulation Controller.

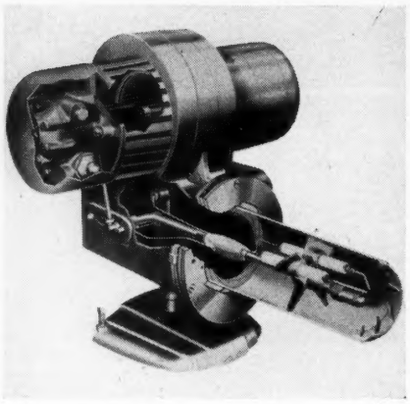
WATTS REGULATOR COMPANY
LAWRENCE MASSACHUSETTS

MANUFACTURERS OF

Automatic • TEMPERATURE *and* PRESSURE REGULATING SAFETY DEVICES •

. . . PROTECT— CONTROL

York-Shipley Introduces New Small Oilburner

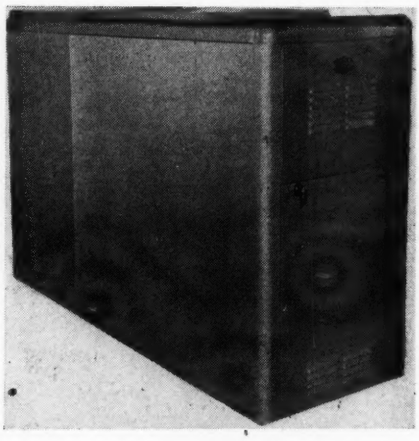


MODEL C-7, smallest gun type oilburner in the York-Heat line, has been introduced by York-Shipley, Inc., York, Pa. It is available in seven different sizes, depending on nozzle size employed, with firing capacity ranging from 1.0 to 2.25 gph. It features an aluminum casting and like all York-Heat conversion burners, contains the Irish Shutter feature. This is an adjustable or variable orifice mounted on the discharge side of the fan, operating like a camera shutter, and metering primary air for combustion. Air guide deflectors and nozzle pipe both are adjustable, forward or backward.

A specially designed high pressure fuel unit supplies fueloil to the burner at 100 lbs. psi pressure, normal setting, with a built-in pressure regulating valve. A hum silencer is designed to hold pump noise to a minimum. The ignition transformer generates a continuous 10,000 volt spark, which is cut off automatically 60 to 90 seconds after firing begins.

Superior Furnace Designed For Low Cost Housing

A FURNACE BURNER UNIT, announced as being low in price, has been developed by Superior Burner and Furnace Co., Detroit 4, Mich., for low cost housing and unit project building. The unit delivers 80,000 Btu at the bonnet, with an air delivery of 1,000 cfm, is fired with a high pressure gun burner with capacity ranging from .85 to 1.5 gph. Standard controls furnished include a room thermostat, combination fan and limit control and stack relay.



Other units in the line include warm air units rated up to 400,000 Btu, high pressure steam boilers from 2 to 50 hp and oilfired suspended furnaces of 100,000 and 150,000 Btu capacity.

General Oil Burner Develops Improved Air Delivery System

COMBUSTOR, an air delivery system developed by General Oil Burner Corp., Baltimore, Md., and incorporated in its Econo-Miser gun burner, depends upon discharge orifices proportioned to fuel nozzle capacities to accomplish intimate mixing of air and sprayed fuel. Main

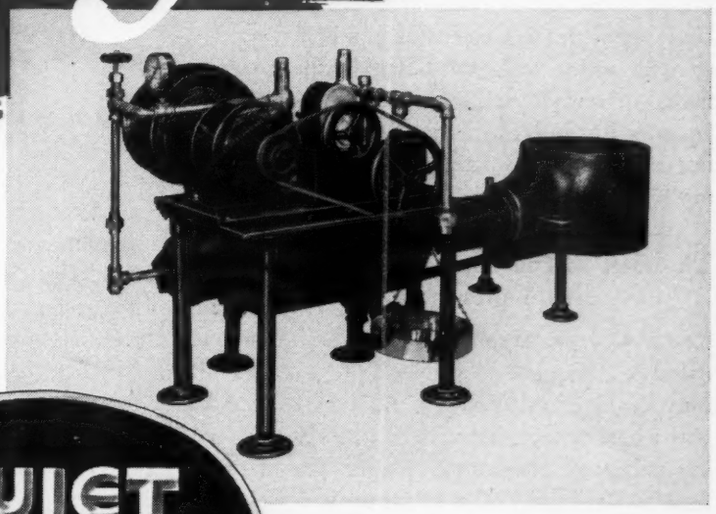
New Brown Cover Makes Hose Last Longer!
RESISTS EXTERNAL WEAR AND ABUSE... PROTECTS CARCASS
NEW TYPE PATENTED CONSTRUCTION
PATENT NO. 1948410 FEB. 20 1934
GOODALL RUBBER CO. INC.
PHILADELPHIA
SYNTHETIC RUBBER LINE
"NEWTYPE CORD"
FUEL OIL HOSE
The tougher, longer-wearing brown cover with which "Newtype" is now furnished gives this hose everything it takes to make fueloil deliveries cost less. The other well-known features still pay off . . . non-flattening, kinkproof construction; non-swelling oil-proof tube; a full, fast flow that means quicker deliveries; lightness in weight and extreme flexibility, for easier handling. Contact our nearest branch for prices, or send for new illustrated folder.
DANGER

GOODALL RUBBER CO., INC.

THE GOODALL-WHITEHEAD COMPANIES

Philadelphia • Trenton • New York • Boston • Pittsburgh • Chicago • St. Paul • Los Angeles
San Francisco • Seattle • Salt Lake City • Houston • Factory: Trenton, N. J. • Est. 1870

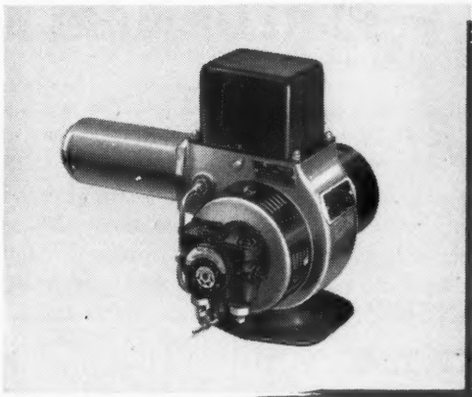
1923



A quarter-century of oil heating progress is paralleled by the development of QUIET MAY oil burners . . . from the 1923 juggernaut at right to the compact, efficient 1948 model below. See them both at **Booth 117-119** in Chicago!

QUIET MAY OIL BURNER

SILVER ANNIVERSARY
National Oil Heat Exposition
APRIL 5~8, 1948
CHICAGO COLISEUM
CHICAGO



1948

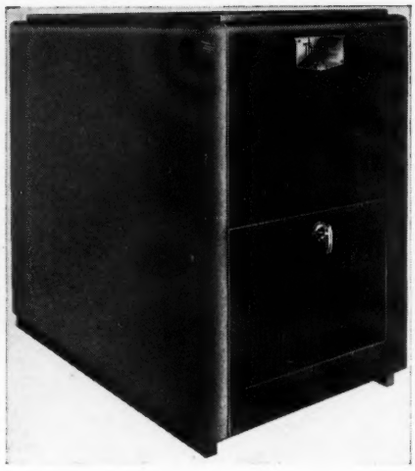
MAY OIL BURNER division of
Gerotor May Corp., Baltimore 3, Md.

adjustment of the device is automatically performed in the application of the orificed nose piece to match the nozzle size. Adjustment of secondary air controls the point of flame propagation and is used as a stabilizer. Tests are reported to have shown that flames produced with the device are more active and much shorter than in previous designs, so that refractory chambers no longer have to be built to exacting specifications.

Experimentally, the company has operated without ill effect a burner equipped with the Combustor in a boiler with water walls extending to the floor, without side or target walls of refractory and with the combustion chamber consisting of insulating floor and firing wall only.

Thatcher A-204 Furnace Uses Vaporizing Burner

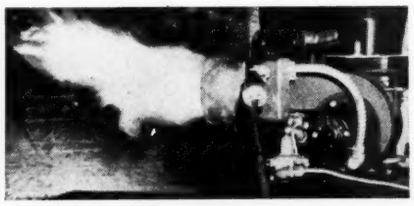
A NEW WINTER AIR CONDITIONER, designated A-204 and developed by Thatcher Furnace Co., Garwood, N. J., is fired with a gravity feed, forced draft vaporizing oilburner, consuming .8 gph. The furnace is rated at 77,000 Btu at the bonnet, 65,600 output at the register, 700 cfm air delivery. A 1/6 hp motor drives an air delivery blower at 650 rpm. A replaceable air filter and an automatic humidifier are standard equipment. A safety feature incorporated in the unit prevents oil fill-up and returns the unit automatically to pilot operation if there should be an electrical failure.



Adjustment of two screws, reached through the service door, permits positive leveling of the unit, which is light enough that it does not require special structural work below the floor, making it suitable for installation in basementless homes. The unit weighs less than 275 lbs., shipping weight, 325 lbs.

Jetronic Vaporizer With Horizontal Flame

A FULLY AUTOMATIC vaporizing oilburner, a product of Consolidated Industries, Inc., Lafayette, Ind., has a calibrated control permitting hourly consumption settings ranging from ½ to 1½ gals. Designated Jetronic, and catalogued model JBO-1, the burner has only two sub-assemblies, firing head assembly, including the pilot, and control assembly, consisting of a blower unit, valve assembly and junction box. Oil flows into



the firing head assembly, where it is heated and mixed with air over a baffle.

IGNITION TRANSFORMERS

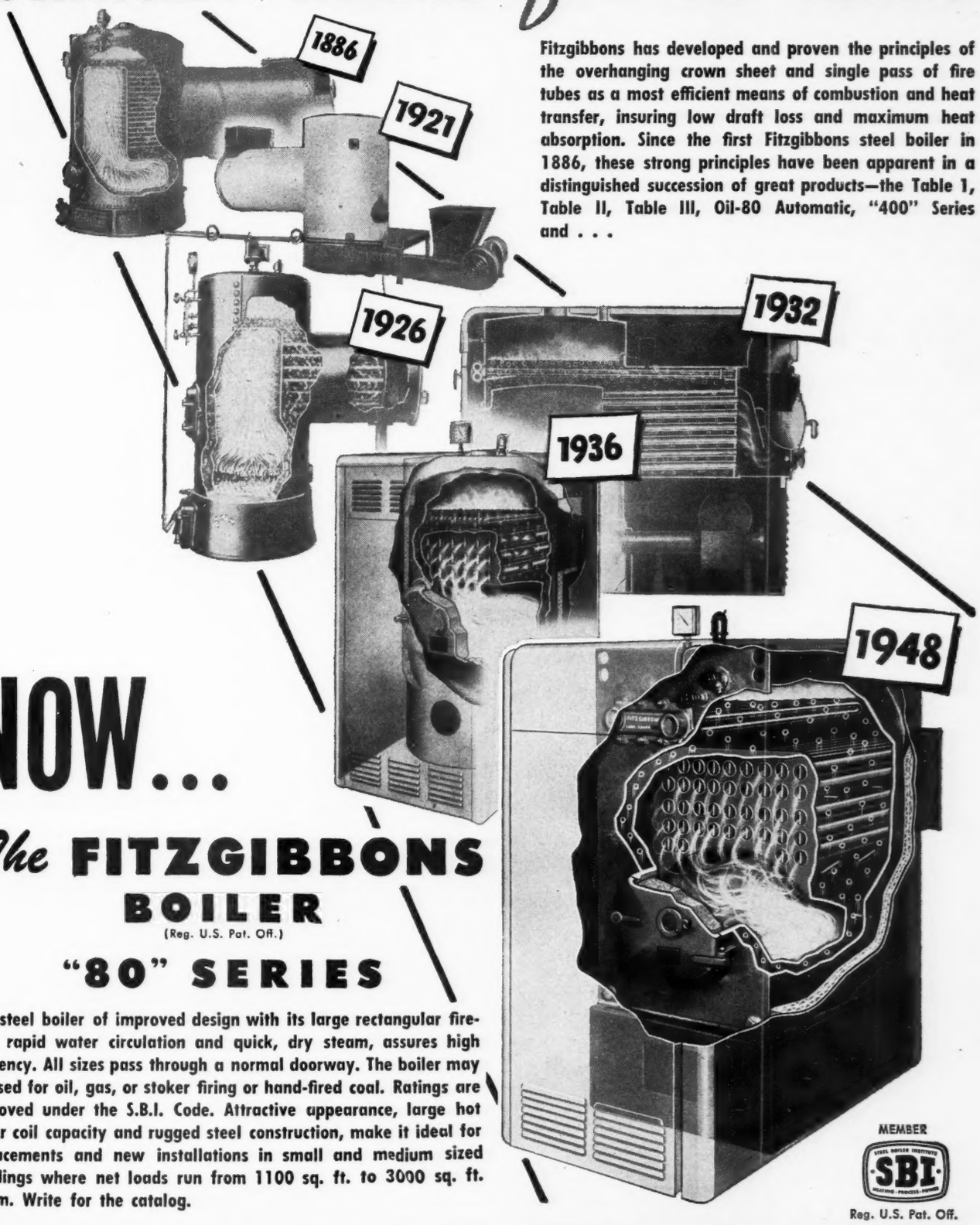
PERFECT PERFORMANCE

SOUND ENGINEERING AND SKILLED CRAFTSMANSHIP HAVE BEEN BLENDED INTO THIS DEPENDABLE DESIGN. NEXT TIME YOU ORDER, REMEMBER —*"THE SHIELD OF QUALITY."*

INDUCTIVE EQUIPMENT CORP.

QUARRY PARK GETTYSBURG, PENNA.

STRAIGHT AHEAD *for* 62 YEARS



Fitzgibbons has developed and proven the principles of the overhanging crown sheet and single pass of fire tubes as a most efficient means of combustion and heat transfer, insuring low draft loss and maximum heat absorption. Since the first Fitzgibbons steel boiler in 1886, these strong principles have been apparent in a distinguished succession of great products—the Table 1, Table II, Table III, Oil-80 Automatic, "400" Series and . . .

NOW...

The FITZGIBBONS BOILER

(Reg. U.S. Pat. Off.)

"80" SERIES

This steel boiler of improved design with its large rectangular fire-box, rapid water circulation and quick, dry steam, assures high efficiency. All sizes pass through a normal doorway. The boiler may be used for oil, gas, or stoker firing or hand-fired coal. Ratings are approved under the S.B.I. Code. Attractive appearance, large hot water coil capacity and rugged steel construction, make it ideal for replacements and new installations in small and medium sized buildings where net loads run from 1100 sq. ft. to 3000 sq. ft. steam. Write for the catalog.

MEMBER STEEL BOILER INSTITUTE SBI HEATING · PROCESS · POWER

Reg. U.S. Pat. Off.

MOST ECONOMICAL IN FUEL · 1886 · THE FITZGIBBONS BOILER

Fitzgibbons Boiler Company, Inc.

101 PARK AVENUE, NEW YORK 17, N. Y.

Manufactured at: OSWEGO, N. Y. *Sales Branches in Principal Cities*

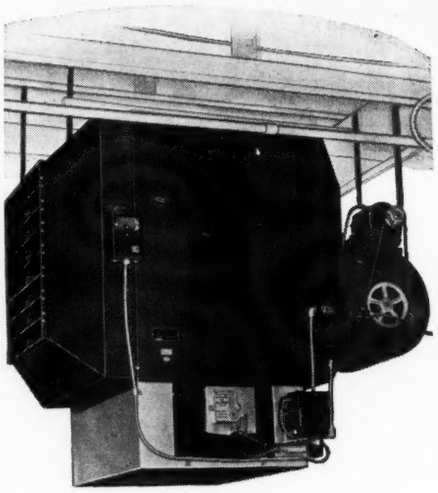
The gaseous mixture then is forced through a series of jets into the combustion chamber, where it burns.

Installation of the burner as a conversion requires only two electrical connections, thermostat and limit control and employs no refractory. The burner can be adapted for flange or floor mounting in all types of furnaces and boilers.

H. C. Little CF-140 Unit Is Ceiling-Suspended

A CEILING-SUSPENDED oilfired furnace unit, developed by H. C. Little Burner Co., San Rafael, Calif., is purported to be the only ceiling unit using a vaporizing burner approved by Underwriters' Laboratories. One unit is suitable for areas requiring up to 140,000 Btu/hr output and two or more units are recommended for larger areas. The CF-140 unit is completely assembled at the factory, to include electrical control and electric ignition and, as shipped, is ready for installation without ducts.

Each unit is fired with an H. C. Little vaporizing oilburner; with a motor-driven blower providing positive heat circulation. The fan eliminates stagnant heat near the ceiling and prevents air stratification.



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and

"FLAME-IZER"

The exclusive HomEase controls responsible for

Saving 33% **FUEL OIL**

HOMEASE PRODUCTS COMPANY

PATERSON 3, NEW JERSEY

Write for full information about available territories

Richfield Turbulator Head Offered For Conversions

THE TURBULATOR head, developed by Richfield Mfg. Corp., New York 16, N. Y., and which has been incorporated as part of its line of gun type oilburners, now is being offered for attachment to any high pressure gun type burner. The head is furnished with a conversion blast tube, whose diameter can be varied to fit almost any standard make burner.

The turbulator head accurately regulates turbulence of primary air and meters, through a special torpedo tube, a quantity of secondary air that washes directly over the nozzle. Combination of primary and secondary air is designed to permit burning catalytic oils without smoke. Adjustments in the head easily change air delivery rates and can adjust flames to conical, round or hollow shapes.

Wall-Flame Boiler Unit Made In Two Sizes

TWO SIZES of the Wall-Flame boiler-burner unit, produced by V & E Products Co., Schuylkill Haven, Pa., are designated Nos. 5619 and 5622, rated at 550 and 730 sq. ft. steam, 875 and 1167 sq. ft. hot water, EDR, respectively. The unit, fired with a wall-flame rotary oilburner, features a fire pot and top section, both entirely surrounded by water, with a baffle plate to deflect hot gases. Twenty-eight vertical tubes provide additional heat absorbing surface and an

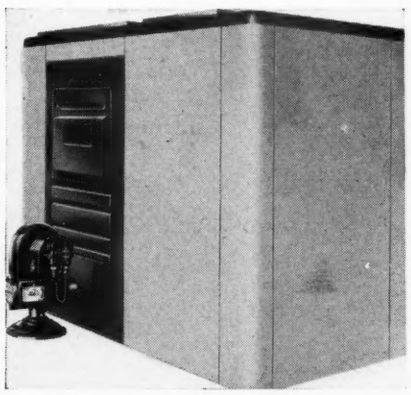
(*Continued on page* 127)

instantaneous coil for domestic hot water is located above the top section.

The units, which are distributed by Temp-Rite Corp., Baltimore 18, Md., apply heat by direct flame against water backed side walls of the fire pot section, from where hot gases rise through a central opening into the top section. There they are forced by baffle plate to pass through the vertical water tubes, around the outside edge of the baffle plate, back through the upper bank of water tubes to a central flue and then to the chimney.

Norge Convertible Furnace For Oil, Gas, Coal Firing

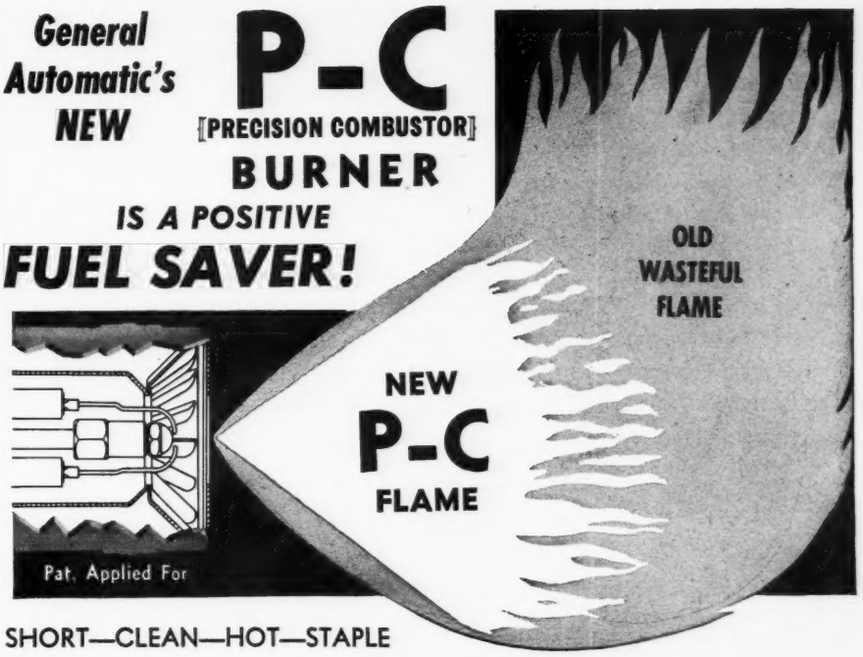
NORGE HEAT DIV., Borg-Warner Corp., Detroit 26, Mich., is offering a convertible furnace, which allows the use of oil, gas or coal firing. Fundamentally, the new winter air conditioner incorporates features required for use of any of the three fuels, with conversion accomplished by means of different "packages" installed in the basic unit. Common features of the "packages" are all-steel heat exchanger, humidifier, blower and air filters, all-steel combustion chamber. Four sizes, ranging in bonnet output ca-



pacities of 118,960 to 195,647 Btu are available. Coal units consist of grates, fire brick and shaker for handfiring and minor modifications available for stoker installation. Gas units contain a burner and necessary elements for automatic operation.

Oil units will be furnished with a new gun type oilburner, specifically designed to burn No. 3 catalytic fueloil. The burners also can be used for conversion installations and operate on individual control of air and oil to regulate closely

General Automatic's NEW P-C [PRECISION COMBUSTOR] BURNER IS A POSITIVE FUEL SAVER!



SHORT—CLEAN—HOT—STAPLE

it's your answer to

THREE MILLION PROSPECTS!

get in on this PROVEN sales program

General Automatic is pleased to announce the new *Precision Combustor* Burner. It controls the combustion of modern catalytic fuels so well that CO_2 concentrations of twelve to fourteen per cent by volume are readily obtained with clean fires. Combustion chamber design is no longer an important factor since the flames resulting from this new device are considerably smaller, gallon for gallon, than the burners of yesterday. Combustion rumble, or pulsation, is minimized. Installations engineered according to GA standards may easily save as much as thirty per cent over former fuel consumption. Adjustments are simple and easily accomplished, maximum results being often obtained through predetermined settings. Investigate now.

✓ SAVES up to 1/3 FUEL

✓ HAS HIGH CO_2

✓ SMALL INTENSE FLAME

✓ BETTER COMBUSTION

✓ NO RUMBLING

✓ SIMPLE, LOW COST INSTALLATION

GENERAL Automatic
Established 1924
... CHECKS FIRST ... WITH THE FINEST

GENERAL OIL BURNER CORP. 2300 SINCLAIR LANE BALTIMORE 13, MD.

Mid-West Factory Rep.—S. Pietrzak, 131 Cambridge Ave., Dayton 10, Ohio
New England Factory Rep.—R. G. Bohaker, 80 Boylston St., Boston 16, Mass.

the fuel-air balance regardless of fuel being used. Simple dial settings accomplish proper control. An oversize blower increases pressure and turbulance within the combustion chamber and direction vanes situated around the interior surface of the combustion cone result in a swirling flame. Other features include an interchangeable steel nozzle to produce flames shaped to fit combustion chambers; high tension electronic spark ignition; rotary-type oil pump operating in permanent oil bath and fully automatic thermostatic controls.

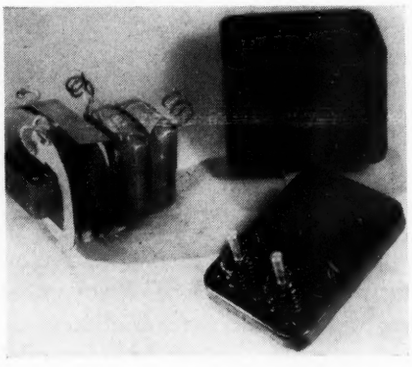
Pyro-Matic Oilburner Has Adjustable Draft Tube

MODEL L Pyro-Matic oilburner, designed by Louis Engineering Co., Chicago 40, Ill., features a telescoping draft tube, permitting the tube and electrode assembly to be adjusted in 11", 14" and 17" lengths. Ohio motors, 1/8 hp, Forest ignition transformers and Sundstrand pumps are standard equipment on the burner, which is equipped also with a clip-on removable inspection plate to facilitate removal of the entire electrode assembly. Burners are subjected to performance tests before delivery.

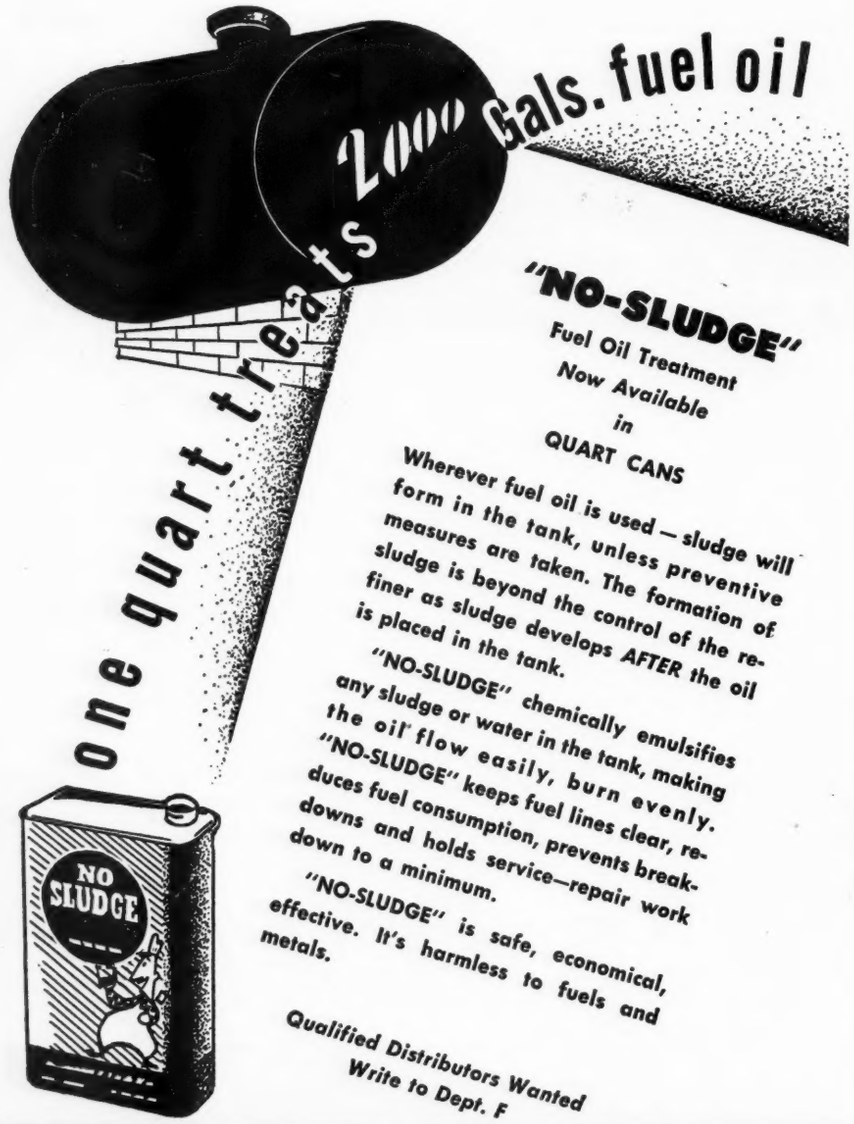
Mixture of air and atomized oil is enhanced by a coordinated turbulator and air deflector. The burner's one piece casting is made of sound-deadening aluminum, with an adjustable base drilled for levelling and bolt mounting to the floor.

Inductive Equipment Offers Oilburner Ignition Transformers

A COMPLETE line of oilburner ignition transformers being developed by Inductive Equipment Corp., Gettysburg, Pa., already includes units rated at 115 volts, and 130 volts, models 250VA, 60 cycles, 23 Ma. These units, as well as future models, are offered with stud, flange, bracket or plate type mounting.



The transformers are compact and enclosed in heavy drawn steel cases, with all electrical parts and connections insulated. Design of the units has concentrated on elimination of humming and radio interference. Early delivery of all types of ignition transformers is indicated by the company.


one quart treats 2000 Gals. fuel oil
"NO-SLUDGE"
Fuel Oil Treatment
Now Available
in
QUART CANS
Wherever fuel oil is used — sludge will form in the tank, unless preventive measures are taken. The formation of sludge is beyond the control of the refiner as sludge develops AFTER the oil is placed in the tank.
"NO-SLUDGE" chemically emulsifies any sludge or water in the tank, making the oil flow easily, burn evenly. "NO-SLUDGE" keeps fuel lines clear, reduces fuel consumption, prevents breakdowns and holds service—repair work down to a minimum.
"NO-SLUDGE" is safe, economical, effective. It's harmless to fuels and metals.
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OIL FLOOR FURNACE
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krat wire.
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BUS. OPPORTUNITIES 130
If you are merchandising minded and are alert to the profit making opportunities of eye appealing quality products, replete with sales making talking points—then by all means get complete information on the Even-Temp line of oil fired Floor Furnaces! Join the ranks of other wide awake dealers all over the country who today feature Even-Temp Floor Furnaces. Drop us a line today for complete information—you'll be glad you did!
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NORTHWEST Metal PRODUCTS inc.
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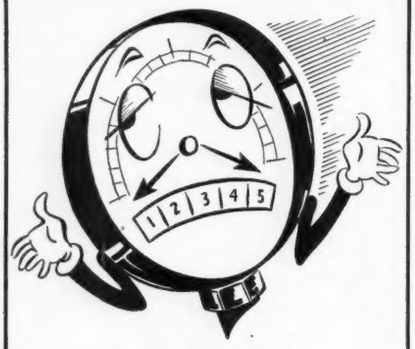

ARE METERS GIVING *YOU trouble?*

Excel-So "FE" Separator/Filters Preserve Meter Accuracy and add years of life.

Many companies large and small have eliminated practically all meter troubles by installing Excel-So Separator/Filters at loading racks, marine terminals, airport systems, and tank trucks to remove water and microscopic solids from: kerosene, gasoline, burning oils, butane, propane, and other light products.

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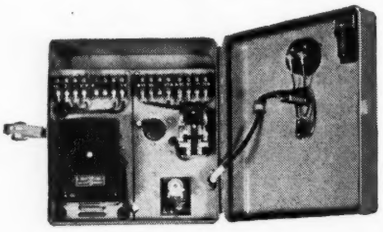
City _____

GE Photoelectric Control For Commercial Oilburners

A PHOTOELECTRIC combustion control system, announced by Control Div., General Electric Co., Schenectady 5, N. Y., is composed of a master control, phototube and electrode units. The system is designed to shut off the flow of oil to commercial burners if the oil fails to ignite, or if flame is extinguished after

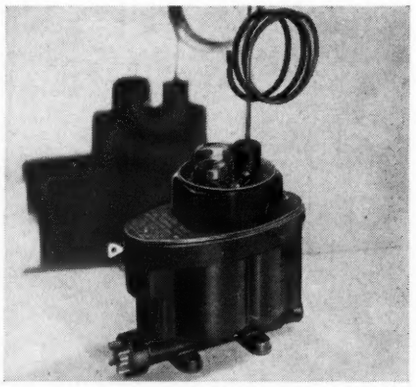


igniting. Burner motors are allowed to operate for a period after shut-down or combustion failure to purge nozzles or cups of unburned fuel and the system locks against further operation after a failure until manually reset.

The oil valve is prevented from opening until the program switch recycles if burner should be shut down by power failure or low water cut-off. Oil temperature thermostat may be used with the system to delay the starting cycle until fueloil reaches a predetermined temperature.

AP Oven Oil Control Regulates Temperature

THERMO OVEN OIL CONTROL, model 240 TO-YR, produced by Automatic Products Co., Milwaukee 10, Wis., thermostatically controls oven temperatures of oil cook stoves through a range from 250



to 550° F., and supplies manual control for surface cooking. No electricity is needed to actuate the control, which maintains temperature by means of a

DEALER OPPORTUNITY

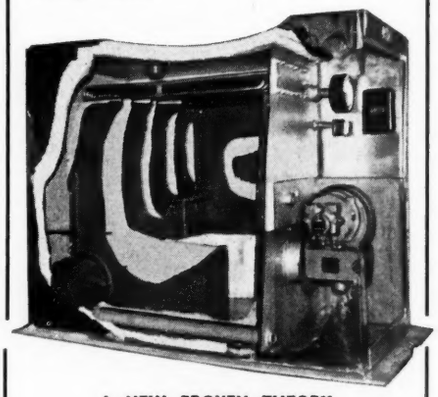
We have openings for a limited number of dealers

ACT FAST— ACT NOW
— HURRY —

SEE WHY

RADIANT GLOW
OIL HEAT

is a better buy. With its Radiant transfer surface — counter flow principle — down fired — all steel — wet base boiler — built-in heat exchanger — instantaneous hot water coil — expansion tank built in — burner completely enclosed with extended jacket — low compact modern design — low operating cost.



A NEW PROVEN THEORY OF HEAT TRANSFER

NO TUBES — NO FLUES JUST RADIANT HEAT

Can any other boiler burner unit offer all the advantages incorporated in Radiant Glow?

Get all the facts about Radiant Glow Franchise today. A limited number of valuable territories still open. This is an opportunity any live wire organization can not afford to let pass by.

Invite our representative to call. Let him tell you of the advantages Radiant Glow oil heat and an exclusive franchise has to offer.

CLIP AND MAIL

LEHIGH VALLEY SERVICE CO.
29 South Sixth St., Allentown, Pa.

Please send me literature on your oil burners—at no obligation to me.

NAME .....

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ON AUTOPULSE FUEL LIFTERS

From New, Greater Plant

Action of the Autopulse Electric Fuel Lifter is entirely automatic. It will provide a constant supply of fuel to sleeve, pot type or rotary oil burners where the main storage tank is below the level of the burner. Increased manufacturing facilities mean no delivery delays.

Controlled by fuel level. Operates only as needed. Exceptionally durable. Gives long service with little or no attention. Leader in this field for many years.

Models SW and SWH for pot type or rotary heater burners—Models S and SH for range oil burners.

They're good items to modernize heater installations. Cost, attractive—in fact, lowest in the field. New and improved facilities for manufacture are the answer.

Nearly two decades of leadership are your protection. Top quality — immediate service.

Write us direct for quotation, at

AUTOPULSE Corporation

LUDINGTON, MICHIGAN

feeler bulb located in the oven. It is necessary only to dial on the control's Thermo Top the oven temperature desired. For surface cooking a range of heats from low to high is supplied.

Model TO-YR controls are available both for one and two pot type burners, or one and two sleeve type burners.

Standardized Transformer Announced by G-E

DESIGNED for oilburner ignition systems, a standardized transformer recently announced by General Electric Co., Schenectady 5, N. Y., features single-slot end mounting and built-in radio interference suppression. It incorporates all features of the general line of G-E ignition transformers and is available in quantity.

Convenient low-voltage knockouts are provided on sides, end and bottom. The new unit has plug-type high-voltage bushings and a large, low-voltage junction box. Strong mechanical construction and protection of low-voltage coils are furnished by a steel junction box partition.

Kut-A-Syz Couplings Of Oil-Resistant Rubber

COUPLINGS, consisting of two metal end pieces and a detachable 7" oil-resistant rubber shaft, have been announced by Kut-A-Syz Mfg. Co., New York 61, N. Y. The couplings may be cut with a hacksaw on the job to any size required. The rubber shaft is specially grooved to engage the metal ends and as many as eight couplings can be fabricated from one shaft. If desired, lengths, cut to specification, can be supplied.

End pieces are available with standard openings of 5/16", 7/16" 1/2" and 5/8" bores.

Marsh Duo-Temp Thermometer Gives Inside-Outside Readings

A THERMOMETER that registers both indoor and outdoor temperatures now is available from the Jas. P. Marsh Corp., Chicago 14, Ill. Designated the Duo-Temp thermometer, the face of the instrument is divided into two separate temperature ranges, with the top range indicating outdoor, the bottom range showing inside temperatures. Outdoor readings are shown in black, indoor in red to set off the two scales and to improve the appearance of the unit.

The unit was designed primarily for home, apartment or office, but since its introduction, has been found to have a number of commercial and industrial applications where differential temperature readings are needed. Installation can be accomplished easily wherever provision can be made to run tubing containing a recording element to the outside of the building. Thermometers are finished in baked enamel and are delivered individually packed in a display box.

Char-Gale Announces "Lifetime" Aluminum Tank

"LIFETIME" aluminum tanks, announced by Char-Gale Mfg. Co., Minneapolis, Minn. and Omaha, Nebraska, are offered for fueloil storage in capacities of 265 gals. Tanks are rustproof and light in weight, are equipped with standard openings and brackets for legs. The manufacturer has designed the tanks for indoor or outdoor use, without necessity

for PERFECT NOZZLE PERFORMANCE COMBUSTION DURABILITY

ATOMIZATION
INDIVIDUALLY TESTED & CALIBRATED

SPRAY ANGLES
AVAILABLE IN ALL SIZES, ARE MEASURED WITH SCIENTIFIC PRECISION

CAPACITY RATINGS
AVAILABLE IN ALL SIZES, ARE GAGED BY FLOW INDICATOR TO INSURE UNIFORMITY

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STEINEN PRODUCT

STEINEN MFG. CO.
NEWARK 5, N. J.

Mfr's of Oil Burner Accessories

What's Behind This Trade Mark?

STEINEN PRODUCT

Why it's so important to everyone who uses NOZZLES because it means better burner performance

plus

OUR GUARANTEE

We guarantee that STEINEN nozzles are free from imperfections and clean, when they leave our plant. Each STEINEN nozzle has been individually tested to insure accuracy of rated capacity within plus or minus 5%, and accuracy of rated spray angle within 5°.

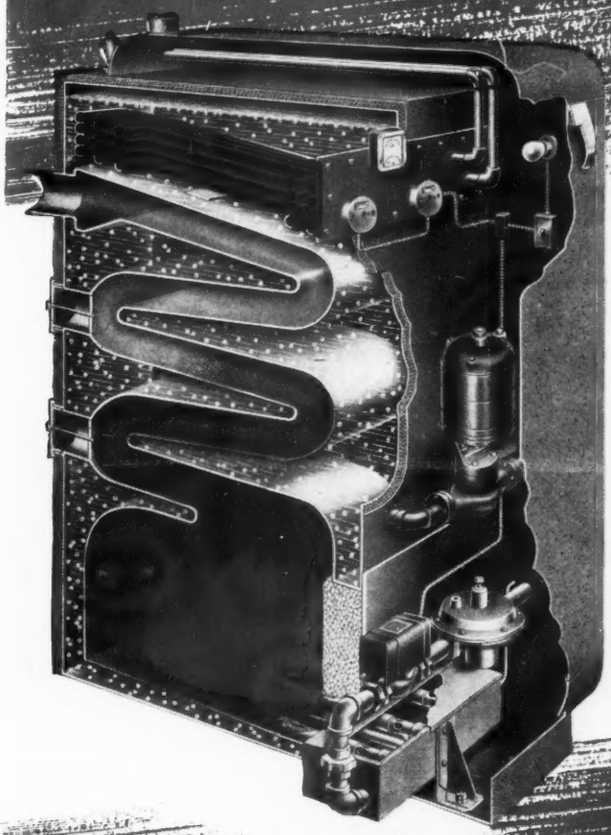
STEINEN nozzles are inspected using #34-36 Saybolt Universal at 75°F and 100 psi. When checked under similar conditions and using a liquid of the same characteristics, we guarantee that they will meet specifications.

Should any STEINEN nozzle not meet this guarantee, we are ready to inspect it immediately. Return it to our plant and if our inspection shows that the nozzle is defective, and there is no evidence that this was caused by tampering or misuse, we shall replace it, free of charge, f.o.b. your plant.

Dependable year in, year out. Backed by 40 years experience in the manufacturing of engineered products for some of the leading manufacturers in the country.

Whatzit..?

IT'S A FUEL-SAVING GAS-FIRED UNIT... at a Price That Won't SCARE Customers!



[illegible] here's a Packaged Heat unit that [illegible] with [illegible] Penn engineered features and [illegible] savings — yet sells [illegible] at a price that won't scare [illegible] customers! Reasons? Here's a partial list:

PRICE REDUCING FEATURES

1. *Patented* PENN construction permits delivery of a unit *completely* pre-fabricated at the factory. Installation time drops to "the irreducible minimum"—you pass on the savings without losing a nickel's profit.

2. Your customer saves the cost of a separate water heater. Tank or tankless coil built into this PENN *Packaged Heat* unit provides automatic, year round hot water.

3. PENN economy-engineering streamlines away all useless frills and gadgets.

EFFICIENCY FEATURES

1. *Triple* Venturi burner of the PENN has three inlets instead of one. In combination with stainless steel flame spreaders, this feature diffuses the flame throughout the entire firebox.

2. The design of the *triple* Venturi inlets assures "whisperless" air intake. The old type solenoid has been replaced by a new slow-acting valve. These and other special features combine to form a combustion "silencer".

3. With a simple kit, any competent installer can convert this unit from gas to oil or vice versa in short order.

4. Primary and secondary air inlets prevent flame starvation by evenly distributing air to every particle of the burning gas.

There really isn't a gas heat dealer who won't benefit by getting the facts about this new unit. Write today for new, free [illegible] just off the press.

The Penn Packaged Heat Gas fired Unit Burner Is Tested and Listed by the AMERICAN GAS ASSOCIATION Testing Laboratories.

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Ontario Rep.
R. G. Dibble Co.
Toronto, Can.

[illegible] Dist.
(exclusive of Ontario)
Actrite Equipment Co., Montreal

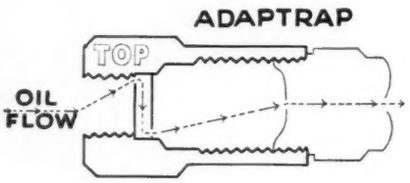
PENN BOILER and BURNER MFG. CORP.
LANCASTER, PENNSYLVANIA

for painting or other finishing.

In addition, tanks are offered for farm or other use for indoor or outdoor storage of gasoline, kerosene, liquid insecticides, tractor oils and other non-freezing liquids.

Delavan Combination Nozzle Adapter and Anti-Drip Device

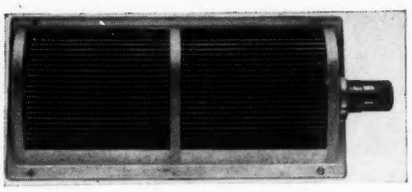
A COMBINATION anti-drip device and nozzle adapter, announced by Delavan Eng. Co., Des Moines, designated the Adaptrap, is designed to replace the conventional adapter. Incorporating a



double baffle, the Adaptrap is described as permitting entrapped air to escape from the fuel line or nozzle and prevent it from re-entering. Use is recommended on high pressure gun type burners to eliminate erratic spray and flame flutter on stop, when either condition is induced by air in the oil line. Device also is offered as a solution to after-drip when the burner stops and during the off period, except in cases where there is a defective cut-off valve.

Dole Thermo-Matic Register Completely Self-Contained

THERMO-MATIC registers for application to forced warm air systems, made by Dole Valve Co., Chicago 12, Ill., control individual room temperatures by regulating warm air input from each register. This is accomplished by a built-in thermostat, actuated by air from the room and not by the air blast from the register. Twisting a dial on the right side of the register adjusts the Thermo-Matic element, actuating a damper, which is an integral part of the register. Unit is completely self-contained, with no bulbs to locate or wiring to be done. Chief feature is the application of an asperator principle, which draws on circulating room temperature air at the rate of 75 fpm over the thermostatic element to maintain a constant and direct relationship between the temperature of the element and the room.



Registers, which normally are placed in the easy-to-heat rooms to equalize heat distribution, can be installed in old or new installations, and, if desired, the register's damper can be locked open or closed by a twist of the dial.

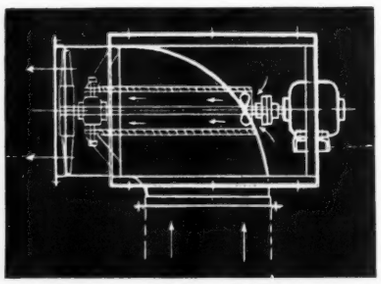
EDCO Fueloil Filter With Replaceable Element

EDCO FILTER S-252, developed by Eddington Metal Specialty Co., Eddington, Pa., has been produced for use on oilburners, space heaters and water heaters, fired with No. 1, 2 or 3 oils. It is designed for upright mounting to prevent air trapping in the unit, and is equipped also with a large sump for collection of water, sludge, rust and other

(*Continued on page* 138)

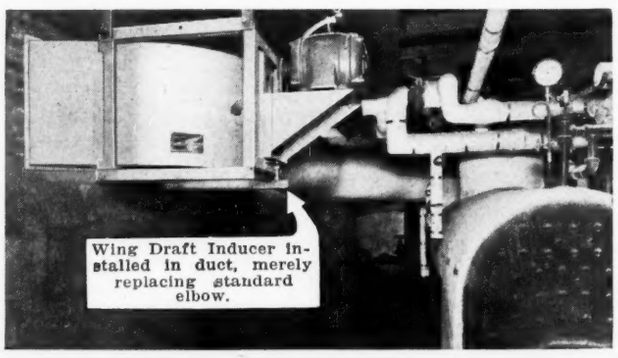
Positive Draft

REGARDLESS OF WEATHER OR SIZE OF CHIMNEY



Cross-Section of Wing Draft Inducer. Note how shaft, bearings, etc. are protected from hot gases and cooled by outside air.

Wing Draft Inducer installed in elbow of breeching. Operates automatically with oil burner.



Wing Draft Inducer installed in duct, merely replacing standard elbow.

CAUSES OF POOR DRAFT

1. Chimney top too low to create the required "pull" in the furnace.
2. Chimney diameter too small, creating restriction in gas flow.
3. Complicated breeching — too long, with too many elbows or restricted areas.
4. High surrounding structures "blanketing" chimney's draw causing "down drafts."
5. Variable weather (such as "muggy" days or when the wind is in the wrong direction, etc.).

Smoke, soot, obnoxious gases and even furnace gas explosions are some of the effects of poor draft in addition to the uneven, irregular heat and incomplete combustion of fuel. If you make the installation you get the blame, so it is wiser to make sure of adequate draft *first*. The Wing Draft Inducer, for moderate size steam plants, industrial furnaces, kilns, etc. is the complete answer to the problem of inadequate draft. Installed in breeching or flue, or in weatherproof housing on top of the chimney, the Wing Draft Inducer will maintain an even constant suction, and produce the required air supply for complete combustion. Make all your jobs 100% satisfactory by insuring positive draft with Wing Draft Inducers.

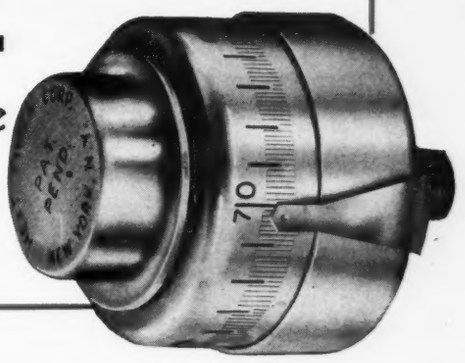
Write for Bulletin I-10

L. J. WING MFG. CO.
154 W. 14th St., Dept. FOD
New York 11, N. Y.
Factories: Newark, N. J., Montreal, Canada

WING DRAFT INDUCERS

HEAT-TIMER...

the *THERMOSTATIC* air valve that is revolutionizing domestic *steam-heating!



HEAT-TIMER, the *only* thermostatic air valve, offers an excellent opportunity for Jobbers and Dealers to "latch-on" to a real, easy-to-sell, easy-to-install money-maker! Equally important—a friend-maker.

FOR the first time in home-heating history, it is now possible to sub-divide thermostatic heat control . . . *room by room.*

With HEAT-TIMER, individual room temperatures are automatically controlled . . . 72° in living room—63° in sleeping rooms—or as desired throughout the house.

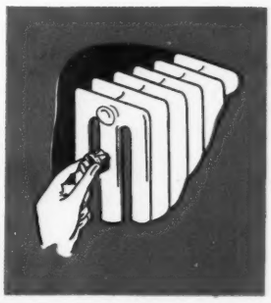
HEAT-TIMER costs little more than the very best conventional air valve—and a simple twist of the movable indicator is all that's required for comfort and fuel economy. Fuel is saved —because the flow of steam is concentrated in the rooms where heat is required, and the steam goes first to the rooms that need it most.

HEAT-TIMER will probably pay for itself in its first heating season . . . and pay dividends in fuel savings year after year.

*One-pipe low-pressure steam systems.

NOW! ZONED HEAT CONTROL

4.95 PER RADIATOR (LIST)



Remove ordinary air valve. Screw HEAT-TIMER valve in its place — horizontally or vertically.

CHECK THIS LIST OF SURE-FIRE FEATURES

- √ **The ONLY thermostatic valve. Automatic control by a *precision* instrument incorporated in a *precision*-made air valve.**
- √ **Costs only slightly more than the best conventional valves.**
- √ **Gives controlled heating—automatic preset temperature control—room by room.**
- √ **Temperature setting easily changed merely by moving indicator. No tools needed. No caps or covers to remove.**
- √ **Saves maximum amount of fuel—no steam enters radiators when heat is not wanted. No room is hotter than required.**
- √ **Makes entire heating system more responsive by sending available steam first to rooms which require it most.**
- √ **Made entirely of brass with bellows of phosphor bronze—will last for years without attention or trouble. Nothing to wear out.**
- √ **Completely quiet in operation—no spitting or sputtering.**
- √ **Can be cleaned when necessary—just dip in water and shake dry.**
- √ **Works with high efficiency on any one-pipe steam system—automatic or hand-fired—and with any fuel.**
- √ **Pays for itself in fuel savings.**

YOU CAN SEE HEAT-TIMER AT THE NATIONAL OIL HEAT EXPOSITION — BOOTH 605

FILL IN COUPON -- PASTE ON PENNY POST CARD

HEAT-TIMER CORPORATION

160 Fifth Avenue • New York 3, N. Y.

HEAT-TIMER Corporation
160 Fifth Avenue
New York 3, N. Y.

Please send me further information and discount data regarding HEAT-TIMER Thermostatic Air Valves.

I am a Jobber ☐ Dealer ☐

NAME .....

ADDRESS .....

CITY .....**ZONE**....**STATE**.....

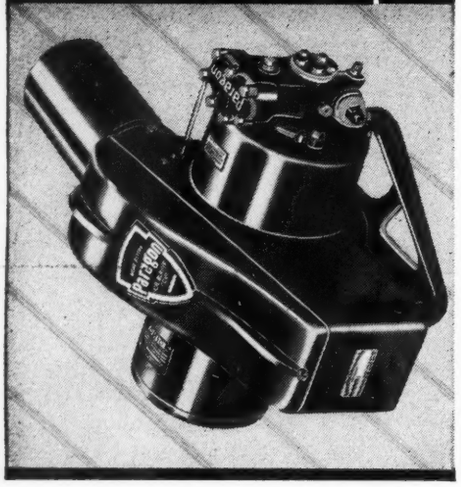
fuel oil & oil heat

IN NEW YORK 1ST CONSUMER ACCEPTANCE!

DEALERS:
Make replacement installations with the famous fuel-saving Paragon Oil Burner. Write for our Dealer Proposition "F" today!
POB 17-148

Paragon
NONE BETTER
OIL BURNERS

Paragon Oil Burner Corp. Bridgewater St. at Newtown Creek, B'klyn 22, N. Y.



New Products

(*Continued from page 134*)

impurities. When necessary, the unit can be replaced by removing one screw without breaking the oil line.

Light weight and sturdy construction feature the S-252 filter for which replacement cartridges are available. At the factory, filter assemblies and cartridges are packed in individual cartons, two and four dozen to the case.

Shomatic Liquid Level Gauge Has Safety Shut-Off

SHOMATIC, INC., New York 22, N. Y., announces a new liquid level gauge, for use wherever gauge glasses are used. It is a self-contained unit, designed to replace the glass in present gauge columns. Two rows of beads inserted in the column hold open a spring check valve, installed at the top and bottom of the column. If breakage should occur, spring pressure closes both check valves. Design facilitates cleaning of check valves and glass.

All metal parts of the gauge are constructed of stainless steel, with the column fabricated from high pressure annealed glass. Liquid level reading is simplified since beads in liquid appear oval, those above, round.

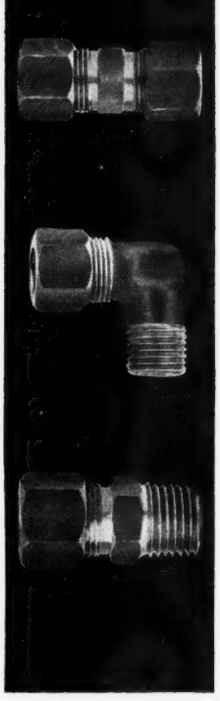
Uskon Rubber Heating Panels

USKON radiant heat panels, developed by United States Rubber Co., New York 20, N. Y., are being installed at the rate of one new house a week, with production planned to equip several hundred homes a week by next fall. The ceiling panels, heated by a conductive rubber resistance element, are competitive in operating costs where electricity can be obtained for 1½ cents per kilowatt hr., or less. Standard size of panels is 4 x 4 ft., ¼" thick, resembling standard interior building boards. Wires bring current to the edge of a heating element sandwiched in the panel between several layers of phenolic insulation, backed by 3/16" asbestos board. Aluminum foil on the upper side serves as a reflector to prevent heat loss through the roof.

Panels operate on 220 volts, 17 watts or 22 watts per sq. ft. They are most efficient when arranged in a peripheral pattern, with a non-heating section in

your most dependable source

COPPER TUBE FITTINGS



a complete line of brass fittings for copper tubing installations for gas and oil line use

BRASS FITTINGS OF MERIT CS

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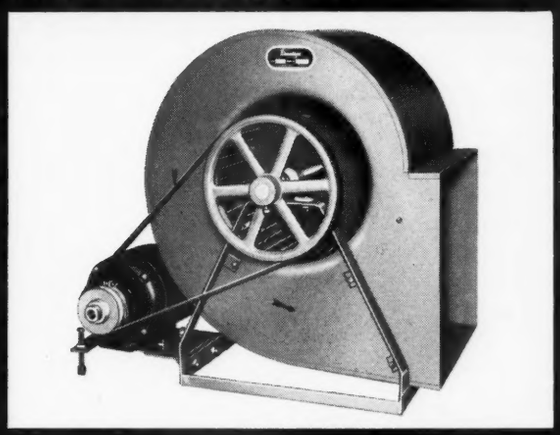
BRASS MFG. CO.

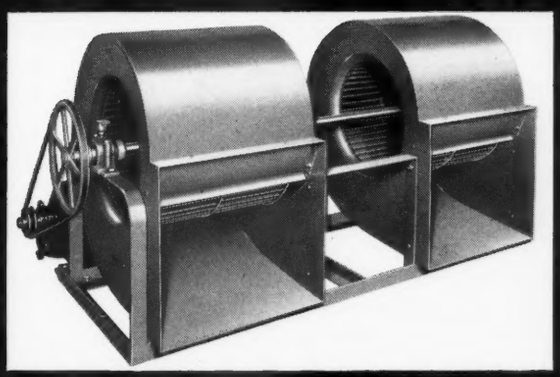
148 West 62nd St. New York 23, N.Y.
PLaza 7-2295

be sure of the Best with

Brundage BLOWERS



PDRM Assembly, heart of the forced warm air heating system.



Brundage Twin Blower Assembly, showing style TDRM with motor mounted at rear.

Visit our booth, Number 445-447 at the National Oil Heat Exposition, Chicago Coliseum, Chicago, Illinois. April 5 - 8, 1948.

better craftsmanship
better materials
better performance

For twenty-nine years Brundage has put the best of everything into their blowers. That is why today so many furnace manufacturers and dealers are asking for Brundage Blowers when they want to achieve the highest results from forced warm air heating units.

Designed by experts . . . made of quality materials . . . assembled by skilled craftsmen . . . these are three of the factors which make Brundage the leader it is today. And this is why Brundage gives you such high performance, with longer life and lower operating costs. Say "Brundage" the next time you order blowers.

THE Brundage COMPANY

Blower Specialists Since 1919

546 NORTH PARK STREET
KALAMAZOO 11, MICHIGAN

the center of the ceiling. Individual room temperatures are controlled by thermostats, or panels can be controlled manually. Ceilings are said to heat to maximum temperatures in about 15 minutes.

Even Ray Radiant Heat Coils Furnished As Package Units

MACHINE MADE COIL MATS for radiant heating applications are being offered by Even Ray Co., Newark, N. J. Patents are pending on a coil design of a double volute nature, wherein the supply coil winds in toward the center in easy-flo bends and when it reaches the center, reverses itself, follows the same pattern and ends up in the return main. The design was formulated to impart a more even balance of heats rays to the area covered, with supply and return coils alternating. Coils are made of copper tubing, using the same centers and diameters as required in designs using grids or sinuous coils.

Mats are manufactured to specification, spaced by machine and held in place by spacers or spreaders, which may be used to keep them in position on the job.

Average set of coils for a house can be packed in two crates, in which a carrying rack is incorporated to facilitate holding in place while fastening spreaders to the supports. Crate and contents are light in weight. The company is preparing a list of coils with uniform Btu outputs so that coil mats may be selected and ordered by model designation to accommodate varying room sizes and conditions.

U. S. Radiator Fin-Ray Baseboard Convector

A FIN TYPE steel radiator, enclosed with a grilled steel covering plate, describes Fin-Ray baseboard convectors recently announced by United States Radiator Corp., Detroit, Mich. The baseboard convectors are installed near the bottom of the wall and take the place of conventional wooden baseboards. An air space between the floor level and the bottom of the convectors provides constant air circulation.

Fin-Ray units can be installed either in new or remodelled homes or buildings, painted or finished to match any decorating scheme. Installation of the convectors, described as distributing heat evenly over wall and window areas, requires no change in building construction.

Perfection Stove Announces Complete New Line of Heaters

PERFECTION STOVE CO., Cleveland, Ohio, as a 60th anniversary offering, has released details on a complete new line of Perfection and Ivanhoe heaters, six models of which are equipped with Multi-Heat three-stage burners and Midget pilot, which operates on a minute quantity of oil. The Perfection line includes three console models, No. 3155, 55,000 Btu/hr. output; model 3168 (illustrated), 68,000 Btu and model 3040, particularly suited for fireplace installations, with an output of 40,000 Btu/hr. Common features for all three

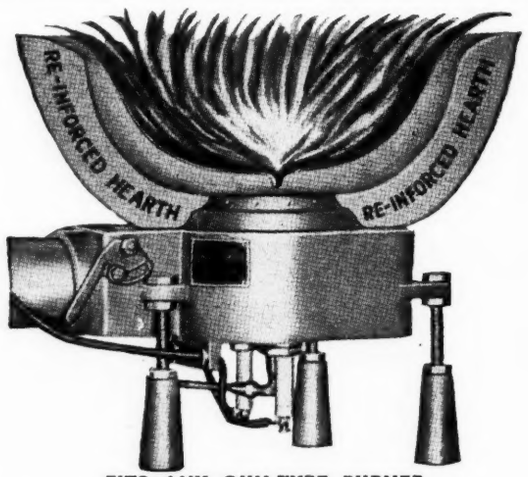
15% to 25% OIL SAVING!

An attachment designed especially to meet your requirements, increasing the efficiency of gun-type oil burner 15% to 25% and thereby making possible a tremendous reduction in oil consumption.

THE ORIGINAL JACKSON OIL BURNER CO.
740 Fenton Road, Flint, Mich.

10% to 13.5% CO-2

As compared with the average gun-type burner, which seldom has a combustion rating higher than 5% to 7% CO-2 The Jackson Converter Attachment has a CO-2 so high as to be almost unbelievable——10% to 13.5% not merely in laboratory tests but in actual service.



FITS ANY GUN-TYPE BURNER
EASY TO INSTALL

Think of the sales opportunity this offers you! With every owner of a gun-type oil burner constantly on the lookout for something that will reduce his fuel bills, reconditioning jobs by the hundreds are all around you and there's a very attractive profit for you in every job!

NOTE: New oil burner installation will be limited this year because of shortage of oil and other materials. Alert dealers are replacing this lost business by equipping burners now in service with Jackson Converter Attachment, aiding the government in the conservation of oil through increased efficiency.

RESPONSIBLE DEALER WANTED. BURNERS READY FOR IMMEDIATE SHIPMENT

DISTRIBUTED BY MABRY HEATING CO. DIVISION OF MABRY COAL AND COKE
740 FENTON ROAD, FLINT, MICHIGAN

EDCO FUEL OIL FILTER S-252

NEW!

FEATURING:

- **MORE FILTER AREA**
- **LONGER CARTRIDGE LIFE**
- **STURDY CONSTRUCTION**
- **LIGHT WEIGHT**
- **LARGE SUMP**
- **INTERCHANGEABLE WITH OTHER MAKES**

EDCO S-252 Filters are designed with a particularly large filter area to give the maximum protection to Oil Burners, Space Heaters and Water Heaters using No. 1, 2 or 3 fuel oils.

EDCO filters are inexpensive insurance against costly interruption of service. Individually boxed, 24 and 48 to a case.

SEE US AT BOOTH 538 NATIONAL OIL HEAT EXPOSITION CHICAGO, APRIL 5-8

EDCO Triple-Tested NOZZLES

Packaged for convenience, safety, storage

Have the nozzles you want when you want them.

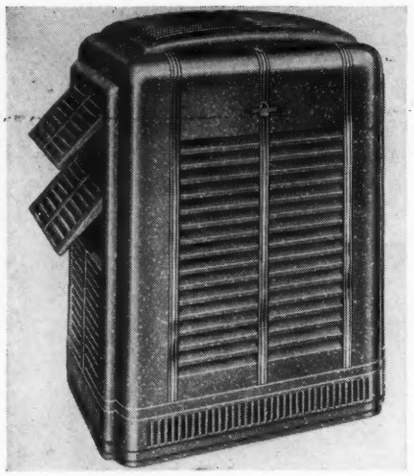
The new EDCO nozzle package contains 12 nozzle tips and strainers, or 12 tips only—each in its own separate carton and each clearly marked.

EDCO nozzles are designed by specialists and tested three ways to insure perfect performance—for spray angle, atomization and actual rated capacity. Cleaning is seldom required because the large capacity, non-collapsible cylindrical-type Monel strainers protect the orifice and slots from plugging.

In ordering, please specify capacity, spray angle, quantity, etc.

EDDINGTON METAL SPECIALTY COMPANY

P. O. BOX K, EDDINGTON, PENNSYLVANIA



models are porcelain-enameled humidifiers, combination oil control and constant level valve, heat-directing shutters and removable top grille. Heaters may be equipped with thermostatic control and blower. Models 3050 and 3040, developing 50,000 and 40,000 Btu/hr., respectively, are direct radiating heaters, with heat-resisting glass block fireview window, fully enclosed base, fuel clean-out rod, oil control and constant level valve. Model 3050 may be equipped with a 5 gal. removable fuel tank, model 3040 with a 3 gal. removable reservoir.

In the Ivanhoe line, models 2150 and 2050 employ Multi-Heat burners and Midget pilots, while models 2130 and 2030 are equipped with self-vaporizing burners. Models 2150 has a heat output of 50,000 Btu/hr, model 2130, 30,000. Models 2050 and 2030 have been designed for use in stores, warehouses, etc.

Midland Space Heater Has Output of 125,000 Btu

MODEL 55 circulating oil heater employs two Breese 13" burners and develops an output of 125,000 Btu. Manufactured by Midland Mfg. Co., Minneapolis 9, Minn., the two burners consume a maximum of 1¼ gals. hourly, 1 qt. per hour minimum, and can be equipped for thermostatic control.

Dimensions of the heater are 30" wide, 51" long and 60" high, with a bonderized two-tone baked enamel cabinet. The cabinet can be kept cool by addition of a metal innerliner. A Master Heat Saver baffle is an added feature of model 55, which is recommended for heating schoolrooms, churches, factories and similar applications.

Waterless Hand Cleanser Added to S.O.S. Line

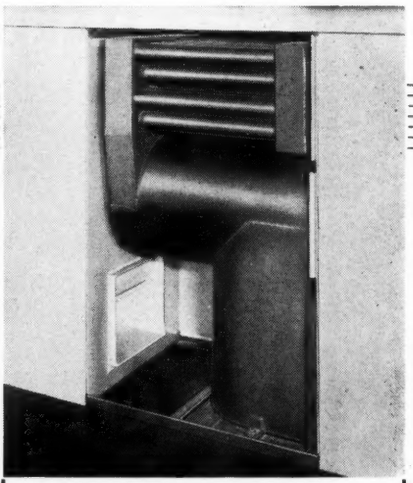
S.O.S. waterless hand cleanser is announced as the twenty-fourth addition to the line of chemical and refractory products made by S.O.S. Products Co., Brooklyn 22, N. Y. A small dab of the cleanser rubbed into the hands and wiped off with a paper towel or rag removes dirt and grime, without use of water.

The cleanser is designed to remove grease, varnish, oil, tar, gum, paint and other substances not soluble in water.

why it can *PAY YOU*
to know about
WILLIAMS Fully-Automatic
OIL-FIRED CONDITIONERS!

- **INTERCHANGEABLE, oil or gas. Compact oil-burning mechanism is mounted in sliding drawer . . . can be replaced quickly and easily with gas-burning unit. Supplied less burner, if desired.**
- **AMPLE HEATING SURFACES, provided by 28 tubular heat exchangers (see right). B.T.U. outputs of 65,000; 80,000; 100,000; 125,000; 150,000; 175,000; 210,000.**
- **7 SIZES AND CAPACITIES, up to 210,000 B.T.U. There's a Williams Conditioner you can sell for *any* size of home, with or without a basement.**
- **COMPETITIVE PRICE multiplies sales opportunities. Precision-built, efficient Williams Conditioners are among lowest-priced units on the market.**

Write today for your FREE copy of Bulletin OW-147

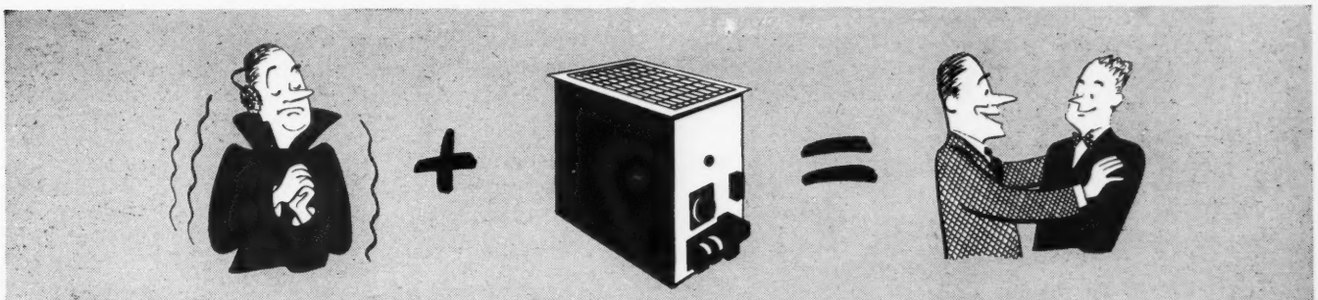


Williams heat exchangers, combustion chamber, and blower opening. Note rigid, all-welded construction, and 28 tubular heat exchangers that provide generous heating surface. Heat outputs up to 210,000 B.T.U.

You are cordially invited to make your headquarters in BOOTH 602 The Ruby Management Co. Exhibit at the National Oil Heat Exposition April 5 to 8, Chicago Coliseum Chicago, Illinois

RUBY MANAGEMENT COMPANY
National Distributors
620 WEST WARRINGTON AVENUE
PITTSBURGH 26, PENNA.

JOBBERS! DEALERS! Excellent territories still open! Williams Conditioners are distributed on a firm, franchised jobber basis. Write today to Ruby Management Company.



Cold customer + Kresky Furnace = Warm friend

...and a *nice profit* for you

Install the KRESKY *Evenheat* Oil Floor Furnace in the new or remodeled homes of your customers and they're sure to tell others that you certainly "did right by them." And that sort of thing snow-balls, you know. The Kresky *Evenheat* is one of the most popular oil furnaces on the market today, and here are a few reasons why:

Low initial and operating cost

The famous patented Kresky burner, basic unit of *Evenheat*, is simplicity itself, allowing us to effect many savings in manufacturing costs—savings we pass on to you. Immediate heat from a fire that is *always* clean —soot free—and hot, assures warmth when you want it—and less oil consumption.

Very easily installed

A Kresky *Evenheat* floor furnace is almost a plug-in unit, it's that easy to install. Requires only three feet of clearance under the floor—less than any other comparable heater.

Always clean instant heat

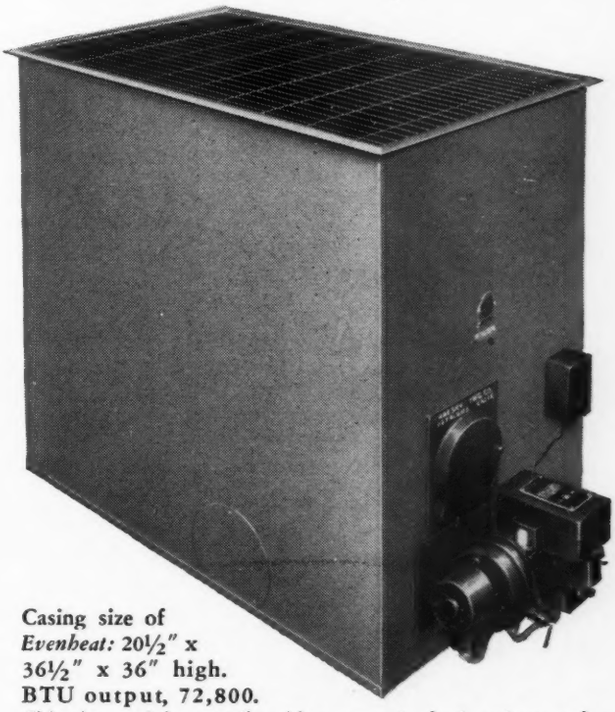
Air is mixed with the gases from the oil in the burner in just-right amounts by an electrically operated blower to give instantaneous clean heat, which is then forced through the home by a circulating fan.

Safe as safe can be

The Kresky *Evenheat* is completely enclosed in a double casing separated by adequate air space. This insulates the furnace, keeping the outside casing cool—an important safety feature.

Automatic and really rugged

Intake of oil and air induction are so-synchronized that you get clean healthful heat in amounts you want when you want it without the slightest bother. The best of heavy gauge steel and the finest of materials, plus the famous Kresky workmanship is your guarantee of long life and complete customer satisfaction.



Casing size of *Evenheat:* 20½" x 36½" x 36" high. BTU output, 72,800. Shipping weight, 237 lbs. Also comes in dual register and super models. Write for our 1948 catalogue for information about our full line of commercial and domestic ranges and furnaces. Increased plant facilities allow us to make faster deliveries on all models.

NOTE TO DEALERS

If you are interested in a dealership, please let us know. There may be an opening in your locality.

Kresky OIL BURNERS

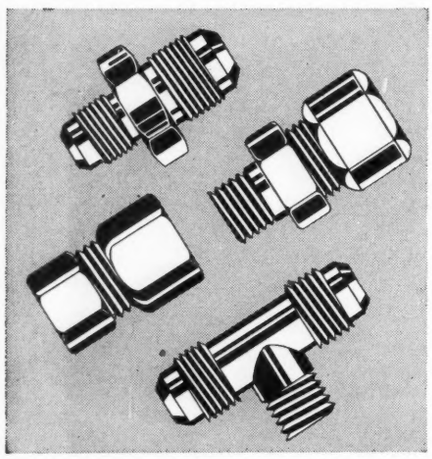
Listed by Underwriters' Laboratories, Inc.

KRESKY MANUFACTURING COMPANY

Petaluma, California

fuel oil & oil heat

select from
AMCO'S
QUALITY
BRASS
FITTINGS
AND BE SURE
OF THE BEST



- Guaranteed accuracy
- Any combination of fittings promptly made to your specifications
- Our Shipping Dept. offers you 24 Hr. Service
- Samples gladly accepted for our recommendations at no obligation

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HOME OF AMCO PRODUCTS
AMERICAN
MANUFACTURING
COMPANY INC.
7 Jewell Court, Hartford, Conn.
Leaders in the field of Quality

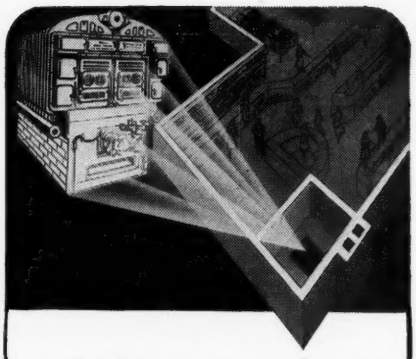
A. Michie, formerly with Gar Wood Industries, Inc., Detroit, has been functioning since November 1, 1947, as service manager, Norge Heat Div., Borg-Warner Corp., Detroit 26, Mich.

Harry S. Gibbard has been named chief engineer, Thatcher Furnace Co., Garwood, N. J. After graduation in 1931 from Iowa State College with a degree of Bachelor of Science in Mechanical Engineering, he began his career in the air conditioner department, Michiana Production Corp., Michigan City, Ind. Subsequent experience included handling special engineering assignments for Young Radiator Co., Racine, Wis.; design engineering on domestic warm air heating equipment with Round Oak Co., Dowagiac, Mich. and serving in various capacities for Armstrong-Lennox Organization, Columbus, Ohio. For two and a half years during the war he served in the Navy as Ordnance superintendent at a Philippine ship repair base.

Howard C. Shilling has been named district manager of the Goshen, Ind. territory for Penn Electric Switch Co., Goshen, Ind. Shilling, an experienced sales engineer in automatic control applications, joined the Penn sales organization seven years ago. He covered the Chicago territory and, later, became manager of the company's Moline office.

Alfred G. Greulich has been added to the sales department, Skuttle Mfg. Co., Detroit 7, Mich., and will represent the company in the state of Michigan. He has been employed by the company for the past five years, working in virtually every department in the factory. He saw three years of Army service during the war, and achieved a technical sergeant rating.

G. J. Gollin, in charge of Fueloil Technical Dept., Shell Petroleum Co., Ltd., London, and M. Marcel Brunet, chief fueloil technician, Societé Anonyme des Pétroles, Jupiter, Paris (French Shell marketing company), are in Chicago to attend the OHI Silver Anniversary National Oil Heat Exposition.



A boiler room can be a bargain basement!

Chain stores can't take in money over counters that don't exist. Architects know that the smaller the boiler room, the greater the basement area that can be devoted to storing, displaying and *selling* merchandise. Heating contractors often show the way to smaller boiler rooms by specifying Smith-Mills boilers . . . because Smith-Mills boilers are constructed of cast iron, therefore do not need large open working spaces in front of the boiler for replacement of tubes.

Because Smith-Mills boilers have plenty of heating surface to efficiently absorb heat generated by intense, blast-like oil, gas or stoker flames — even at peak firing rates — they are outstandingly efficient for automatic firing. This fact means, too, that they deliver maximum heat per square foot of basement space.

Yes, a boiler room can be a bargain basement . . . or a classroom, ward or tool room. In store or school, hospital or factory, Smith-Mills boilers are saving valuable space — and money, too. Write for the *facts.*

H. B. Smith
CAST-IRON BOILERS
THE H. B. SMITH CO. INC.,
68 Main St., Westfield, Mass.

Offices and Representatives in Principal Cities

CONCO Means YEAR 'ROUND P-R-O-F-I-T..

CONCO Magic Spray Oil Burner

At Least 350,000 Oil-Wasting Burners *Must be Replaced!*

Never before has the remarkable, fuel-stretching economy of these efficient CONCO oil burners had the business building sales appeal it has today! In approximately 1 out of every 10 oil heated homes is an obsolete, oil-wasting burner that MUST BE REPLACED! What a market!

CONCO dealers are showing rising profits because they have the modern, oil-saving burners the public demands.* Yes, CONCO oil burners offer more heat from less oil . . . make oil last longer!

Write today for complete details on the profitable, exclusive CONCO franchise.

CONCO-BREESE Horizontal Oil Burner

*See them for yourself—Booth 522, National Oil Heat Exposition, Chicago Coliseum, April 5th to 8th.

CONCO *heat*

CONCO ENGINEERING WORKS

MENDOTA, ILLINOIS

Sidney G. Harris is the new sales manager, Richfield Mfg. Corp., New York 16, N. Y. He will devote his activity to the development of national sales of Flame Control oilburners for modernization through distributors and dealers. Mr. Harris has had previous experience with Liberty Fuel Oil Co., Petroleum Solvents Corp. and Continental Motors. During the war he was a Lieutenant Colonel, Air Corps and Area Petroleum Officer.

W. Alton Jones, president, Cities Service Co., New York, N. Y., on February 6 received from Secretary of the Army Royall the President's Certificate of Merit for services to the Government during the war. The certificate was presented in recognition of his work as president of War Emergency Pipelines, Inc., administering construction of the Big Inch and Little Big Inch pipelines; as chairman, District 1, Petroleum Administration for War and as a member of the Petroleum Industry War Council. In accepting the award Mr. Jones paid tribute to his colleagues and coworkers in War Emergency Pipelines, Inc. and stated he regards the award as not made to him individually, but as representative of all who participated in the project.

J. H. Hall, manager, marketing engineering dept., Shell Oil Co., New York, has assumed the duties of assistant manager, operations dept., in addition to his present assignment. He joined Shell in 1932 as electrical engineer, marketing engineering dept., and advanced to the position of manager of the department in 1946.

E. B. Maire has been named by General Controls Co., Glendale, Calif., as sales manager for its branch offices located in Boston, New York, Philadelphia, Pittsburgh, Birmingham, Cleveland, Chicago and Detroit. As sales manager he will assist and coordinate the efforts of these branches in contact with original equipment manufacturers, wholesalers and utilities in the sale of automatic temperature, pressure and flow controls. Mr. Maire, a former regional sales manager for General Controls, has had many years experience in the automatic control industry.

Arthur H. Ross has been appointed representative by Warren Webster & Co., Camden, N. J., for the Wilkes-Barre, Pa. territory, which includes Binghampton, N. Y., Scranton and Williamsport, Pa. Mr. Ross, a native of Wilkes-Barre, succeeding his father, Frank Ross, who has covered the territory for the past thirty years, has had considerable engineering experience with heating, ventilating and air conditioning firms, and was associated with his father for seven years from 1934.

Edwin A. Hamala, a prominent Cleveland advertising executive since 1933, has joined the staff of Jack & Heintz Precision Industries, Inc., Cleveland, Ohio, as advertising and sales promotion manager. He began his advertising career in 1933 with Apex Electrical Mfg. Co., after six years in Apex production and engineering capacities. Later he directed all advertising and sales promotion activities for GE's Premier vacuum cleaner division from 1939 until January of this year, with the exception of a 1942-45 military leave of absence.

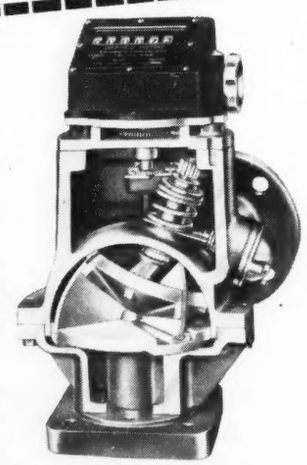
Send this Coupon

GRANBERG CORPORATION
1302-67th Street, Oakland 8, California
Please send complete information on GRANCO Rotary METERS for Truck and Bulk Plant service:

Name_____
Firm Name_____
Address_____
City_____ State_____

for Complete Information on...

Granco METERS
for TRUCK and BULK PLANT



GRANBERG CORP.
1302 SIXTY-SEVENTH STREET
OAKLAND 8 • CALIFORNIA

Dealers and Service with Stocks in All Principal Cities

Modern Heating Plants conserve fuel save money

THERE'S BIG BUSINESS in replacing old oil burners with modern efficient heating units.

This year, sell conservation and efficiency.

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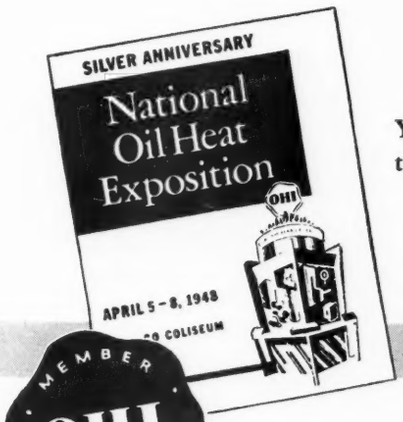
OHI'S SILVER ANNIVERSARY!

WEATHERALL'S 20th ANNIVERSARY!

CELEBRATE THEM BOTH WITH US AT THE NATIONAL OIL HEAT EXPOSITION, CHICAGO APRIL 5-8, 1948!

Our Booth Number Is 406

You'll be introduced to a complete line of domestic and industrial oil burners bearing the famous "Weatherall Rooster" Trademark! You'll learn all about the new Weathertherm Warm Air and Boiler Units!



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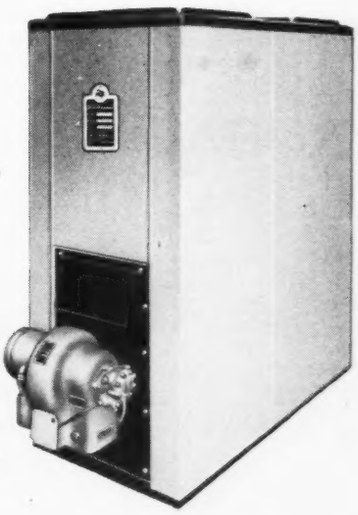
TWENTIETH ANNIVERSARY 1928 1948 WEATHERALL WEATHERTHERM TRADE MARK REG. U. S. PAT. OFF.

Weatherall Oil Burners range in capacity from 1 to 4 GPH for the domestic Model AL shown above to the 25 to 35 GPH of the largest industrial models. All Weatherall Oil Burners are PERFORMANCE guaranteed!



Complete package units giving maximum service at minimum cost in many and varied installations.

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Weatherall Engineers, INC.

387 CHARLES STREET, PROVIDENCE, RHODE ISLAND

Makers of Quality Heating Equipment Since 1928

Last Month

G-E unveiled to a conference of nearly one hundred railroad executives on March 2, a 4,800 hp development gas turbine which burns low grade fueloil. The unit is started by an auxiliary diesel engine and fires initially on diesel oil. After idling speed is attained, the unit operates on Bunker C fueloil. General Electric and American Locomotive are associated in the production of the diesel-electric locomotive, which has been operated in factory tests almost continuously since last September.

State regulation of the fueloil industry as a public utility was proposed in the New York State Assembly on February 24 by Assemblyman Max Turshen, Brooklyn Democrat, according to an AP dispatch. Turshen wants a joint legislative assembly to investigate the possibility of placing the industry under the Public Service Commission. "The fueloil industry," Mr. Turshen declared, "must never again be permitted to ignore its public obligation." Earlier on February 25, State Senator Charles T. Corey, Jackson Heights, N. Y., advocated consideration be given to State control of fueloil and coal prices. He called for establishment of an eight man committee to investigate fuel firms and recommend legislation this session authorizing the Public Service Commission to fix fueloil and coal prices.

Oil tanker transportation, it was disclosed at a February 25 meeting of the Petroleum Regional Advisory Committee for the East Coast, has eased greatly through the commissioning of many formerly tied-up Maritime Commission ships, and is not an immediate problem so far as the present heating system is concerned. Committee members reaffirmed their opinion that, barring severe weather conditions during March and continued public cooperation in fuel saving measures, consumers' demands would be met. The transportation subcommittee reported it has been successful in meeting all requirements for tank cars to move heating oil and kerosene into critical supply areas in upper New York State.

Shifting equipment to produce gas from light fueloil rather than coke and water, Cambridge Gas Light Co. has almost doubled the heat content of the product and reports the use of fueloil as permitting it to meet all demands for gas this winter. Otherwise, says the company, there might have been a failure of gas service in the Cambridge, Mass. territory served.

Visitors to government buildings in Washington late in January wondered at the comfortable temperatures encountered ten days after President Truman ordered a 68 degree daytime limit on heat in government offices. Various rooms in the White House and Capitol ranged from 72 to 77 degrees on January 27, the *Herald Tribune* Washington Bureau discovered. Explanation: The President's order affected only the eleven buildings heated with fueloil, the other 250 being heated with coal-generated steam.

Robert G. Dunlop, Sun Oil president, testifying before the House Interstate and Foreign Commerce Committee on

Announcement...

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BOOTHS 157 and 158
at the O. H. I. SHOW

• *You will be interested to see*

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It's the new automotive accessory (installed in about 10 minutes) that makes gasoline tank filling simple and foolproof.

It's a new development and we want our friends to see it!

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See for yourself how quickly Tasgon frees pipe joints, nuts, bolts, couplings and other connections which have become frozen with rust. See how it works its way into the tightest crevices . . . cuts through hardened paint, grease, grime . . . cleans all metal surfaces.
Why spend *hours* fighting rust when a few drops of Tasgon will do the job for you in *minutes.*

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Write today for your free sample can of Tasgon and complete information. You'll find it's the fastest working, most efficient rust solvent you've ever used.

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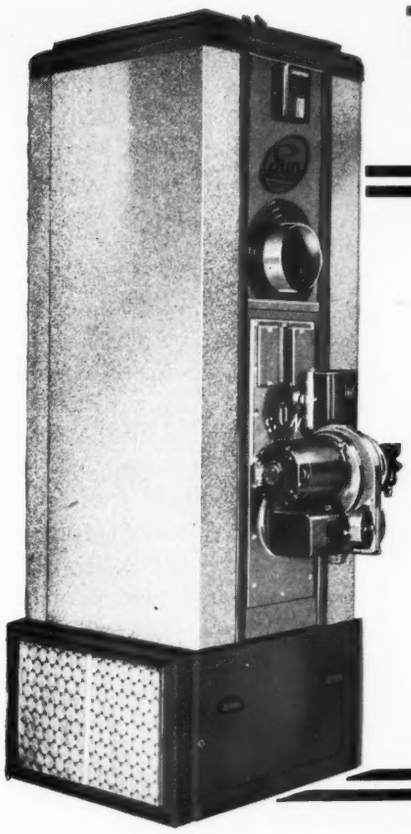
THE J. V. PATTEN COMPANY

presents---



The HI-BOY

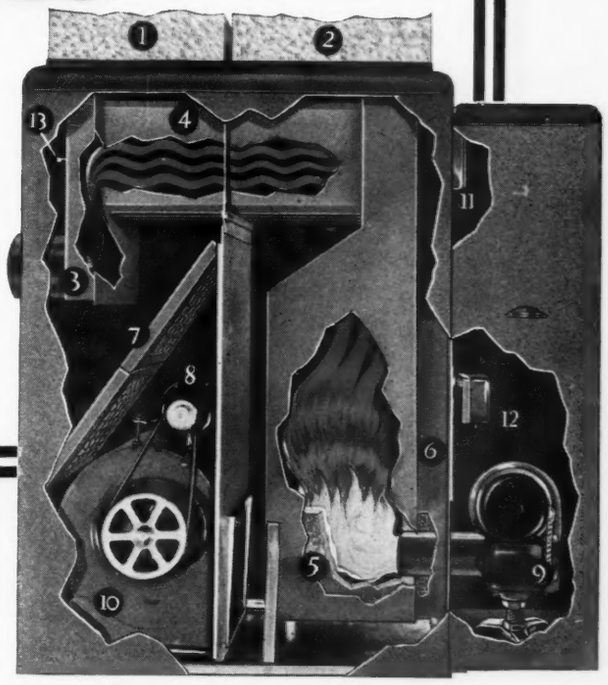
Attractive and compact, SUN Fuel-Master HI-BOY furnaces require no more space than the average closet. The HI-BOY is a complete winter air conditioning unit. It is accessible entirely from the front. Made in four types—66,000, 75,000, 85,000 & 100,000 B.t.u. bonnet delivery.

Complete Sun FUEL MASTER AUTOMATIC FURNACES

The 2000 SERIES

Attractive - Compact - Quiet - Efficient Counter-Flow principle of heat transfer. 14 years of age and every furnace operating. Sizes 66,000, 75,000, 85,000, 100,000, 135,000, 165,000 & 200,000 B.t.u.

Sun Fuel-Master Furnaces Make Money



J. V. PATTEN CO.

SYCAMORE, ILL.

fueloil & oil heat

February 17, advocated price increases "to check the expansion of demand for fueloils" and arrived at a second conclusion that "petroleum rapidly is becoming too valuable a commodity to be burned in furnaces and under boilers. Part of that load now carried by oil should be shifted to natural gas."

Chicago Better Business Bureau, according to the February 10 edition of the *Chicago Journal of Commerce,* requested that oilburners, stoves and furnaces not be advertised until the current oil shortages ease. Exceptions, concedes the Bureau, would be replacements for faulty equipment, or equipment where the seller is in a position to assure the customer a season's supply.

W. Lowrie Kay, chief, central news bureau, *Christian Science Monitor,* in its February 9 issue, filed a piece from the LaGrange, Ill., works of General Motors' Electro-Motive Div., diesel locomotive manufacturers. Officials there reported that 95% of the locomotives now on order are diesels, but stated that addition of these units would not deprive homeowners of fuel. Instead, the engines' greater speed and ability to haul larger loads would enable them to increase supplies of available fueloil moved by tank car. Officials maintain that all diesels in the country burn only 1% of total available supply and that railroads regularly "reclaim" portions of consumed oil.

Steam locomotive manufacturers met recently with army and navy officials in Washington to determine if national defense plans hold out any future for their business. Orders for steam locomotives, they said, are running out. Only 30, or 2.5% of the total outstanding orders, were on their books January 1. Manufacturers attributed coal crises in the past few years as a prime reason for substitution of diesels. They believe that in a military emergency, or during a severe oil shortage, steam locomotive capacity would be of vital importance.

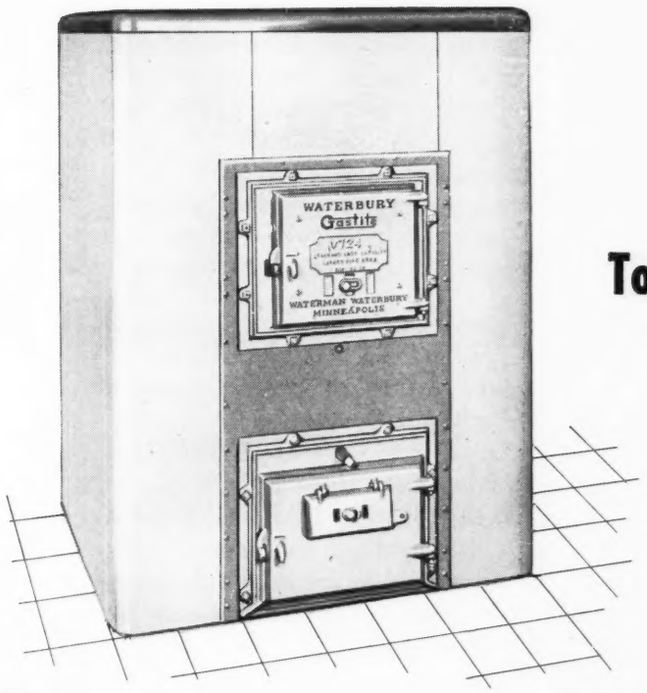
Testifying before the House Interstate Commerce Committee on February 19, M. J. Rathbone, Esso-Standard Oil Co. president, contended that prices of burning oils, in relation to other fuel energy commodities, were not exorbitant. He said earnings were justified in that they depend upon an adequate supply of crude oil, and, during days of waning supply, they depend largely on finding new supplies, an expensive undertaking at best.

The oil industry this year will be able to meet its own capital requirements largely out of earnings, requiring less outside financing than in 1947, Joseph E. Pogue, Chase National Bank vice president, told the American Institute of Mining and Metallurgical Engineers at their recent New York meeting. Mr. Pogue reported the oil industry retained in 1947, 65% of total net earnings for re-investment.

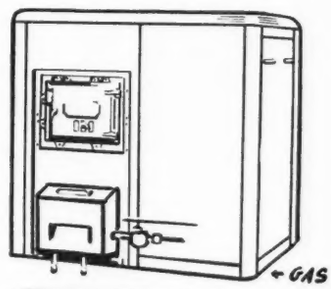
CIO oil workers union Washington representative, William Hanscom, protested on February 18, to a Senate commerce subcommittee a move to revise the Natural Gas Act. He charged living costs would be increased by the passage of the Rizley bill, prohibiting the Federal Power Commission from regulating gas prices in the field. The Commission would be required under the bill to recognize prevailing prices, rather

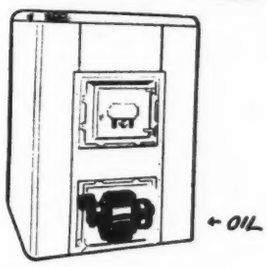
Adaptable to ANY Fuel

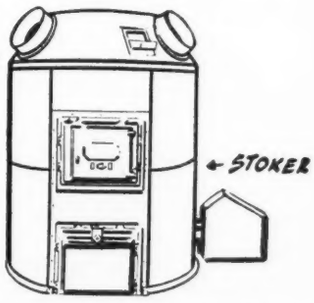
The 700 Series



To Meet Today's Problem







Waterbury

700 Series Coal-Fired Units are made in both round and square gravity models and in a complete winter air-conditioner. All of these units are equipped with the famous Waterbury Gas Tight body—and they convert easily to oil, gas or stoker. As coal-fired units, or converted, they live up to Waterbury's standards of efficiency.

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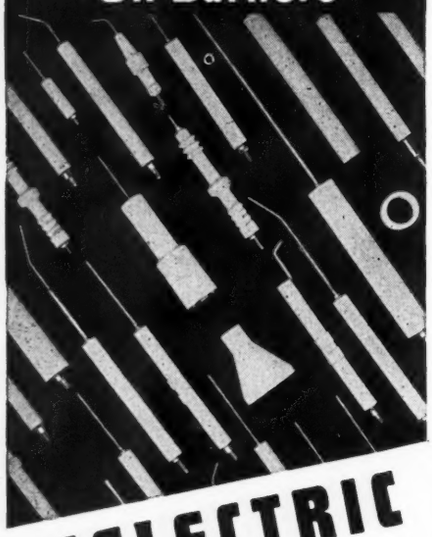
The Most Widely Used Ignition Assemblies for Oil Burners



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STANDARD AND SPECIAL ASSEMBLIES IN ALL TYPES AND LENGTHS

The majority of oil burners being installed or serviced today are equipped with Dielectric electrode assemblies . . . and for good reason—

1—They are made with the finest steatite insulators and electrode tips . . , in any designs to meet specific burner requirements.
2—They have all Underwriters Laboratories, Inc., approvals.
3—Standard assemblies are available for quick delivery.
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In addition, Dielectric high tension cable assemblies and Dielectric bus bars for transformer and electrode layouts are available for any practical burner hook-up.

Let Dielectric's complete, prompt engineering cooperation help improve your burner and expedite production. Write for bulletin.

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than production costs. Senator Moore and Representative Rizley, Oklahoma Republicans, wrote the bill.

George A. Lamb, manager of business surveys, Pittsburgh Consolidation Coal Co., proposed to the Federal Power Commission on February 19, that natural gas should be used to make synthetic gasoline instead of being put into pipelines as a basic fuel. He was opposing a proposed 1800 mile natural gas pipeline from Texas to the eastern seaboard, and indicated his company was planning to make synthetic fuel from coal in the distant future.

Additional quantities of diesel and heavy fueloil will be available for export to the United States late next year as a result of a shift in refinery construction at Caracas, Venezuela. Creole Petroleum Corp. (Standard Oil Co. of N. J.) is switching the design of its new 60,000 barrel per day refinery under construction on the Paraguana peninsula from one geared primarily for gasoline production to one concentrating on heavier oil products.

About 50,000 tons of tubular goods were sent to Russia last year under license of the State Department. This would have allowed for drilling about 1500 more wells in this country, and would have added about 135 million barrels of new reserves—and might have eliminated every empty fueloil tank in the country this season.

Distilled sea-water to replace Colorado River water, now in dispute between Arizona and California, for irrigation in Southern California, would require a third of California's annual fueloil production. Engineers are issuing such statistics to support the California contention that river water should be diverted, since the only other source of irrigation water is the Pacific Ocean.

U. S. tankers bought from the Maritime Commission with the pledge that they would be kept in the domestic run will be relieved to carry Mid-East oil after March 15. The ships have a total capacity of 11,000,000 barrels. It is said that domestic tankers soon will have to be idle, and there is increasing need for additional crude and products from other areas.

KRAISSL

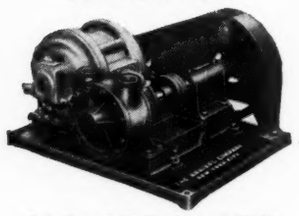
PUMPS AND SEPARATORS

FOR OIL BURNER SERVICE

CLASS 50 LIGHT OIL PUMPS
DIRECT DRIVE FOR
#1 TO #5 OILS INCLUSIVE

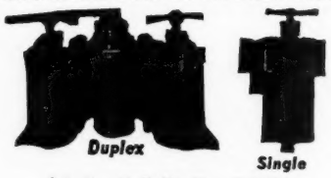
Ask For Bulletin A-1330

CLASS 60 HEAVY OIL PUMPS
REDUCTION DRIVE
FOR HEAVY OIL



Ask For Bulletin No. A-1193

CLASS 72 STRAINERS AND FILTERS
SINGLE AND DUPLEX
QUICK CLEANING
STANDARD AND HIGH PRESSURE



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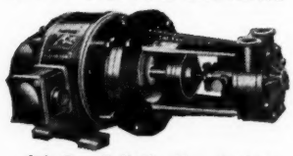
FOR BULK STATION SERVICE

CLASS 60M MOTORED PUMPS
DIRECT DRIVE
FOR EXCLUSIVE USE WITH
LIGHT OILS AND SOLVENTS



Ask For Bulletin No. A-1267

CLASS 80 TRI-ROL PUMPS
INTERCHANGEABLE SERVICE
BOTH LIGHT AND HEAVY OILS
TANK TRUCK AND BULK STATION

Ask For Bulletin No. A-1366

295 WILLIAMS AVE.

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A MESSAGE FOR JOBBERS AND DISTRIBUTORS

....IF you stock the KING CHEMICAL *Q.E.D. line... they will *practically sell themselves*

Dealers all over the country are learning that one sale of *any* of the King Chemical products *means the certainty of re-order!*

Check this well-rounded list of fast-moving, profit-packed preparations... and send for full information.

- **SLUDGE-KLEEN.....** Eliminates troublesome sludge, gum and carbon from tank and coils. Prevents clogging of strainers and nozzle. Inhibits condensation . . . makes fuel oil easily combustible.
- **SOOT-KLEEN .....** The EASY way to remove carbon and soot from furnaces, flues, stacks, chimneys and steam boilers.
- **GREASE-KLEEN.....** This heavy-duty cleaner effectively removes oil, grease, dirt, carbon, and tar from oil burner units. Non-inflammable, non-toxic.
- **BOILER-KLEEN.....** Removes scale rust, slime and sludge from boiler. Eliminates priming and foaming. Removes oil and grease. Reduces inability to heat all radiators. Keeps boiler plates clean. Increases efficiency in both high and low pressure boilers.
- **SKIN-KLEEN .....** Contains LANOLIN. Cleans and protects . . . leaves hands soft and prevents dermitosis.
- **DRYS-KLEEN .....** A pre-heated adsorbent mineral that absorbs oil, water and grease.
- **BOILER SOLDER .....** This metallic compound permanently seals leaks and cracks. Insures against porous castings, leaky pipe joints and threads. For use in both high and low pressure steam and hot water boilers.
- **GARAGE FLOOR KLEENER** Removes grease, tar, dirt, etc., from driveways, pits, garage floors. Leaves no film—keeps floors like new.
- **WONDER SHAMPOO....** For washing pleasure cars and trucks. Contains no abrasive, soap or alkali. A wetting agent that removes dirt, oil and grease from chrome, nickel and all painted surfaces without streaking.

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Manufacturers Activities

Delco-Heat National Drive Aims At Fuel Conservation

DURING the week of February 9, Delco Appliance Div., General Motors Corp., Rochester, N. Y., held meetings for Delco-Heat distributors and dealers in Boston, New York, Detroit and Chicago, to acquaint them with its campaign to assist home owners in obtaining maximum efficiency in the use of fueloil. M. L. Judd, Division sales manager, conceived the idea for the campaign, based on the conviction that the average home owner is unaware of the serious fuel wastes traceable to obsolete equipment.

Engineering studies, Mr. Judd indicated, have shown that even in old installations an average improvement of oilburner operation by following recommended practices can save 25% fuel consumption. The Delco-Heat program provides for fuel economy surveys to be made free of charge by dealers, whenever requested by home owners. The plan is aimed at bettering efficiencies by adjustments and improvements, and, where indicated, by replacing obsolete burners with new models.

The Division also introduced a new finance plan, whereby the home owner may replace his burner, boiler or warm air furnace and pay for the equipment only during the summer months when he has no fueloil bills to pay.

Norge-Heat Leases Plant At Hammond, Ind.

ACQUISITION of a 150,000 sq. ft. plant at Hammond, Ind., leased from the Pullman-Standard Car Mfg. Co., has been announced by Norge-Heat Div., Borg-Warner Corp., Detroit, Mich. C. S. Davis, Jr., Norge-Heat vice president and general manager stated that a complete, improved line of oil and gasfired water heaters and winter air conditioners, floor furnaces and conversion burners will be made in the new plant. Operations are scheduled to begin in midsummer.

The plant's location affords the Division an improved shipping and service set-up for its nationally merchandised products. There are two railroad sidings and ample facilities for truck delivery. The plant itself is housed in a single-story structure, steel and brick, monitor-type construction. Outlying buildings can be adapted readily to designing and testing of equipment. The newly announced convertible furnace, allowing use of any fuel, will be made at Hammond. Equipment for porcelain enamelling, baked enamelling, sheet steel fabricating, automatic loading and conveyance is to be installed.

American-Standard Meetings Stress Expansion, Research

A TWO-DAY MEETING, held in Washington, D. C., February 9 and 10 by American Radiator and Standard Sanitary Corp., Pittsburgh, Pa., was attended by company sales office managers and sales representatives covering the entire southeast. Other meetings of a similar nature were announced for New York, St. Louis, Chicago and San Francisco. D. D. Couch, vice president and general manager of sales, revealed a program calling for a 20% increase in produc-

New 7" DRAFT CONTROL

DRAFT KOREKTOR
No. 907

Cole-Sewell's new Draft KoreKtor No. 907, especially designed for the popular 7" furnace pipe size, rounds out the Draft KoreKtor line to include a size for every domestic heating plant.

Draft KoreKtor No. 907 has the close fitting blade swinging on knife-edge non-clogging pivots that has made Cole-Sewell draft controls famous. Extra large unrestricted opening to control strong drafts and a new outside adjustment for hair trigger control are additional features of the new 7" Draft KoreKtor.

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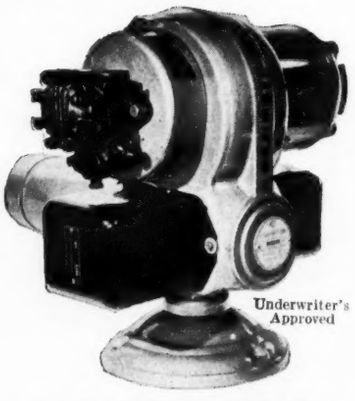
2288 University Ave. St. Paul 4, Minnesota

New 1948
Standard-yne
MODEL A
A PRODUCT OF OVER 25 YEARS OF OIL BURNER DEVELOPMENT

FIRST GUN BURNER TO FEATURE A PRESSED STEEL BODY

- HEAVY GAUGE STEEL BODY
- CANNOT CRACK OR BREAK
- AMAZING QUIETNESS & ECONOMY



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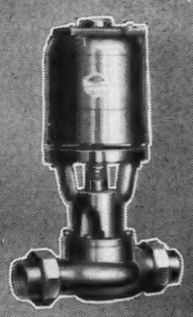
ALL THAT YOUR CUSTOMERS WANT IN HEATING

FORCED CIRCULATING
THRUSH FLOW CONTROL
SUMMER — WINTER
HOT WATER HEAT!

THRUSH System has everything

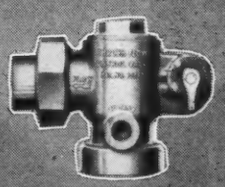
EQUIP the hot water heating plants of your customers with the finest modern automatic controls for greater efficiency, lower fuel consumption and increased heating satisfaction. This means Thrush System, with forced circulation and a plentiful, automatic supply of hot water for kitchen, laundry, and bath from the same boiler, winter or summer. Get acquainted with Thrush Equipment now if you want to build a good reputation and increase your sales. Ask your wholesaler today or address Dept. C-3

Thrush Water Heater

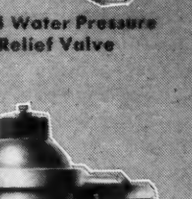


Thrush Water Circulator

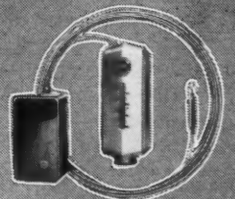
Airtight Pressure Tank



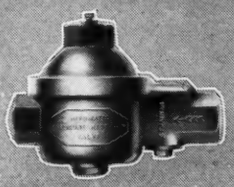
Thrush Flow Control Valve



No. 4 Water Pressure Relief Valve



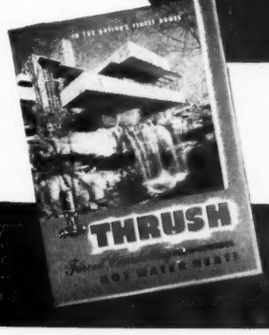
200 201
No. 201 Radiant Heat Control



No. 12 Automatic Filling Valve

WRITE FOR THIS *New* HOT WATER HEATING BOOKLET

A new sales aid that will help you sell more Thrush Systems.



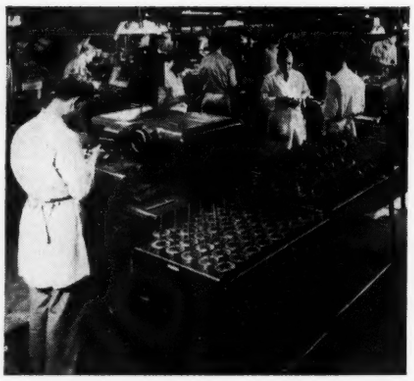
H. A. THRUSH & COMPANY PERU, INDIANA

tion of plumbing fixtures and an even greater increase in many heating equipment items. In a preliminary statement, Mr. Couch pointed out that working forces of the company have been increased and a twelve million dollar expansion program has been undertaken, scheduled for completion in 1948. In addition, the company is making a study of new products and product developments in a greatly enlarged research program.

Other discussion leaders at the Washington meeting included Howard L. Spindler, manager of advertising and sales promotion; Joseph Salamone, manager of the general sales and quotation department; D. J. Quinn, H. H. Steck and A. M. Maddock, field managers.

Pezzillo Pump Announces Completion of Plant No. 2

PEZZILLO PUMP CO., Philadelphia 32, Pa., has completed construction of plant No. 2 at 821 North 2nd St., Philadelphia, and already is producing hot water circulators at the new location. This second factory will substantially increase output and has been designed specifically for making the Pezzillo



Scene *in machine shop, showing one process in the manufacture of Pezzillo water circulators.*

pump. Equipment and methods employed not only speed operations, but, at the same time, permit constant and continuous inspection and testing as parts proceed along the mechanized production lines.

The entire circulator, including electric motor and pump, is produced under one roof. Pezzillo makes its own rotor and stator laminations, does its own coil winding and has available laboratory facilities of latest design. Finished circulators are subjected to a series of electrical and mechanical tests.

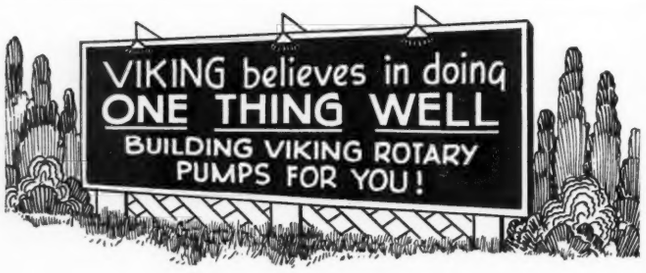
Incorrect Address Reported For Penn's Rochester Branch

THE ANNOUNCEMENT of the establishment of a Rochester, N. Y., sales branch for Penn Electric Switch Co., Goshen, N. Y., as published on page 116 of the February issue, incorrectly reported the address as 2610 Monroe Avenue. A typographical error in the press release was responsible for the mistake. Correct address is 2126 Monroe Ave., Rochester.

Winkler Briefs Managers At Three Day Conference

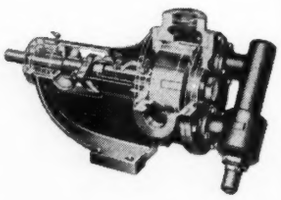
A THREE DAY COFERENCE, held at the home offices the last week in January, provided an opportunity for company executives of U. S. Machine Corp., Lebanon, Ind., to brief the district sales managers who attended on new additions and improvements to the Winkler heating line. The district sales managers in turn are imparting this information to the company's entire distributor organization. The managers received explanations of the revised Winkler Assured Sales Program, were shown new sales tools and advertising materials.

The conference, which adopted as a



In times when every effort must be put forth to supply the unprecedented need for industrial equipment, it is with pride that the Viking Pump Company is able to devote its entire energies to building one product . . . Viking Rotary Pumps. The present out-put is greater than ever before. Employment is at an all-time high. More new machines are being used to build good, reliable Viking pumps than at any time in the company's history.

We look forward to constantly improving our shipping schedules. Ask for latest delivery information and catalog 1500EE today.



See Our Catalog In SWEETS

Viking PUMP COMPANY Cedar Falls, Iowa

WANTED
NEW PRODUCTS TO SELL

We desire one or two more good devices associated with the oil burner and heating industry to represent.

Our jobber and burner manufacturer following is very interesting and covers 16 Eastern Seaboard States.

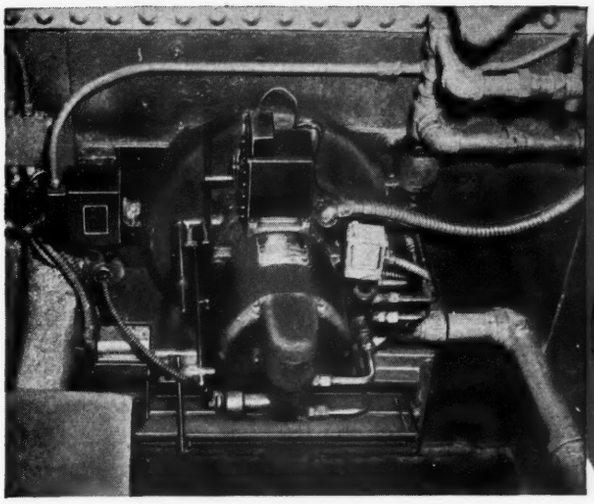
We are not just ordinary representatives in that we do much merchandising supplementary to direct contacts . . . helpful to any manufacturer interested in putting over his products substantially and wholesomely.

Please submit your product by letter and, if appealing to us, we will then arrange mutually convenient appointment.

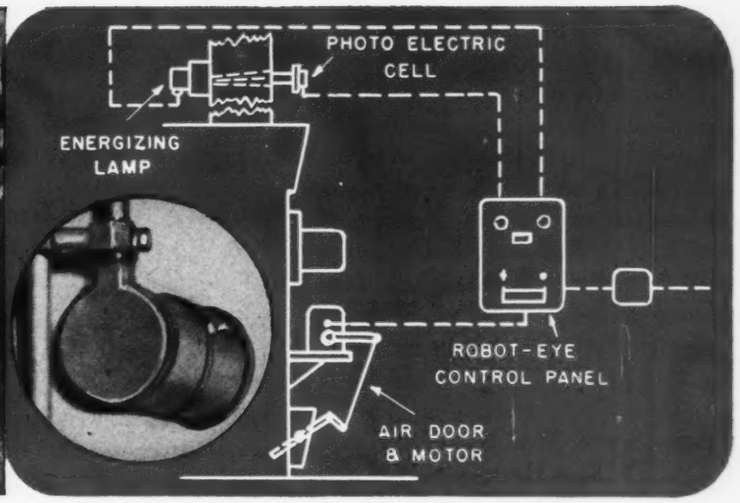
During Chicago Oil Burner Show
Sheraton Hotel

William J. Debler and Sons
AUTOMATIC HEAT DEVICES
NEW YORK, NEWARK, BOSTON, SYRACUSE, WASHINGTON
Main Office: 104 South 21st St., Philadelphia 3 Locust 4-1785

EASTERN FACTORY REPRESENTATIVES



On fully automatic burner.



Robot-Eye in flue and diagram of operation.

TEN REASONS WHY *Robot-Eye*

FOR ROTARY CUP OIL BURNERS

1. Robot-Eye saves fuel because it automatically adjusts the air door to provide maximum practical efficiency regardless of varying oil temperature and viscosity, barometer, wind or other conditions.

2. It regulates the fuel-air ratio to maintain the light haze which always accompanies high CO_2 reducing soot accumulation in the boilers and eliminating nuisance to neighbors.

3. Robot-Eye costs less because it is so simple. Completely automatic, no accessory indicators, or other combustion controls required.

4. It saves 10 to 20% of heavy fuels (No. 5 & 6) according to authentic records kept by apartments, institutions and industrial plants over a period of seven years.

5. It is accepted by leading Fuel Oil and Oil Burner experts and approved by the Underwriters' Laboratories, Inc.

6. On fully automatic burners it lengthens burner off periods, provides excess air for clean start, and prevents refrigeration after stopping.

7. Robot-Eye indicates combustion conditions on haze indicator dial.

8. Completely automatic operation insures minimum oil consumption, minimizing supervisory attention.

9. Robot-Eye is applicable to horizontal rotary cup burners and steam or mechanical atomizing burners using No. 5 or No. 6 oil, low pressure or high pressure; manual, semi-automatic or automatic

10. Robot-Eye is designed, manufactured, installed and serviced by Robot-Eye oil combustion experts. Let them tell you how much oil you can save now.

GENERAL POWER PLANT CORPORATION

381 FOURTH AVENUE
NEW YORK 16, N. Y.

MANUFACTURERS OF—

Robot-Eye

AUTOMATIC ELECTRONIC COMBUSTION CONTROL

slogan, "How Will You Rate In '48?" saw displayed the 1948 Winkler line, including: High and low pressure gun type burners; complete line of round and square cased warm air steel furnaces for firing with all fuels; hot water, steam and domestic hot water boilers for oil and gas and forty-five models of bituminous coal stokers. The sessions were held in the offices of the Winkler Sales Engineering Institute, which offers factory training in selling, installing and servicing.

Spark Stove New Name For Hammer-Bray Co.

SPARK STOVE CO., INC., Oakland, Calif., is the new corporate name of Hammer-Bray Co., Ltd. President Harold B. Naylor announced the change and explained that neither company policy nor personnel will be affected. The new name was chosen to better identify the nature of the company's operation and tie-in the company with its products, Spark oilburning heaters and gas ranges.

The company has manufactured stoves exclusively since 1902, with the exception that during World War II it manufactured aerial practice bombs. George C. Mitacek, sales manager, coincident with the name change announcement, revealed that the company is expanding its dealer organization in the East and Middle West.

Autocar's Albany Branch Moved To Larger Quarters

THE ALBANY BRANCH, The Autocar Co., Ardmore, Pa., has been moved to 452 North Pearl St. C. E. Lopez, Autocar district manager, stated that the new location provides a well-fitted repair shop, stock room space triple that of the old location and 15,000 sq. ft. of parking space.

Oil-O-Matic Handbook On Fuel Conservation

A POCKET-SIZED 54-page Fuel Conservation Handbook, prepared by Williams Oil-O-Matic Div., Eureka Williams Corp., Bloomington, Ill., is designed for dealer use, to acquaint him with heating techniques and procedures to improve operating efficiencies. A foreword cites the 15% shortage in fueloil supply and sets this as "par for the course," pointing out that any saving in excess of 15% attained on existing oilburner installations, releases fueloil for new burners.

H. W. Burtitt, *seated, president, Eureka Williams Corp., Bloomington, Ill., checks over export market problems with, l. to r, W. A. Matheson, Williams Oil-O-Matic Div. manager; Capt. Filip Sloor, Capt. Olof Tillquist and Charles P. Jensen, Swedish distributors of Oil-O-Matic oilburners and Eureka vacuum cleaners.*

A chapter on heat loss measurement and estimating fuel consumption, contains detailed explanations of calculations, accompanied by tables and text covering all types of systems. Degree-day normals for one hundred and thirty cities and gallons of oil consumed per degree day for various design tempera-

Underwriter Approved

STACO

STACO DOMESTIC FUEL OIL TANK FEATURES: Double dished style heads; embossed and pierced for spud openings; fitted for pipe legs. 275 gals. Anticipate your requirements due to shortage of steel. Write for earliest delivery date. Orders limited.

The STATE TANK CO.

P. O. Box 1484 (6) Factory: 261 Wolcott St.

NEW HAVEN 13, CONN.

You profit *more* through less

FREE service calls

with

ANCHOR OIL BURNER

Whether it's installed in a new furnace . . . or used as a conversion unit, this new 1948 ANCHOR OIL BURNER assures trouble-free operation. This lack of need for free servicing builds greater profits for you!

You'll find, too, that sales are made quicker with the famous ANCHOR name! Write today for details and prices. Anchor Division, Stratton & Terstegge Co., P. O. Box 311, New Albany, Indiana.

ANCHOR the manufacturers of ROUND OAK

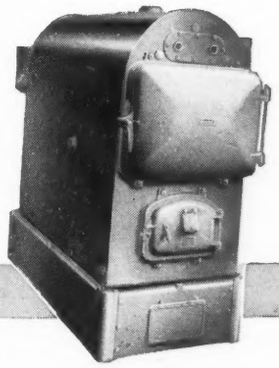
ANCHOR OIL BURNER

KEWANEE

SQUARE-HEAT TYPE R

Reg. U. S. Pat. Off.

For Medium Size Buildings



Low Cost...with Oil, Gas or Coal

An improved "streamlined" version of the Kewanee Square "R" Boilers so outstanding for seventeen years . . . Square Heat Type "R" is built in 8 sizes and designed for utmost dependability heating the medium size building economically.

Incorporated in the SQUARE-HEAT series are the many features that have kept Kewanee the foremost boiler for heating.

Built of steel for extra strength and dependability.

Big, high fireboxes cut waste to a minimum by providing air space for complete combustion.

Longer gas travel, to the rear then forward and back through the two-pass tubes, transfers all usable heat to the boiler water.

Spinner Blades (A Kewanee development) force the hot gases to "scrub" the tube walls insuring certain transfer of maximum heat.

Large hi steam space means enough dry steam is at hand even when the boiler is pushed above its rated capacity.

Quickly convertible: Like all Kewanee Type "R" Boilers, Square-Heat can be converted, quickly and inexpensively, from mechanical to hand firing and back again.

Capacity: 740 to 3000 Sq. Ft. Steam Radiation

SBI
STEEL BOILER INSTITUTE
HEATING · PROCESS · POWER

Reg. U. S. Pat. Off.
MEMBER

KEWANEE BOILER CORPORATION

KEWANEE, ILLINOIS

Branches in 60 Cities—Eastern District Office: 40 West 40th Street, New York City 18

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

OVER 75 YEARS BOILERMAKERS

fuelsil oil heat

tures are shown. Other chapters discuss various heat distribution systems and analyze several kinds of heat production. These sections are featured by complete diagrams of six typical warm air, hot water and steam installations, followed by explanations of how they operate and discussions of the characteristics of each. A tabulation of personal habits to eliminate heat loss and fuel waste is embodied in the final chapter.

Items of general interest in the Handbook include a discussion of oil costs as compared with other fuels, equivalent fuel costs in table form, an explanation of instrument testing, a table to show heating values of fueloils and several paragraphs on the chemistry of burning oil.

Palmer Pays Freight Charges On Shipments Of Heating Units

SINCE January 1, Palmer Mfg. Corp., Phoenix, Ariz., manufacturers of Palmaire suspended, forced air and wall type heating and cooling equipment, has paid freight charges on all regular shipments of heating units. A slogan, "Palmer Pays The Freight In 1948," has been adopted, and, while the program presently is on a trial basis, the company declares that present indications point to it being permanent policy on heating equipment.

Also, the conditions of the warranty on equipment, as it relates to defective or damaged units or parts, remains unchanged. All such returns must be prepaid by the sender and all replacements will continue to be shipped freight collect.

Automatic Control Changes Name To Ace Electric

EFFECTIVE February 1, Ace Electric Corp., Bedford, Ind., became the new name of the Automatic Control Engineers, Inc. No change in management or personnel is contemplated in the activities of the company, which produces Ace fractional horsepower motors.

A-P Slide Film Shows Heater Accessory Market

A SOUND SLIDE FILM, produced by Automatic Products Co., Milwaukee 10, Wis., illustrates methods to tap the large market for oil heater accessories, which the company estimates at 3,500,000 prospects. "Comfort with Automatic Heating" has been selected as the title of the film, release of which is timed to meet a growing demand for a plan that will help dealers to increase dollar volume by broadening their lines.

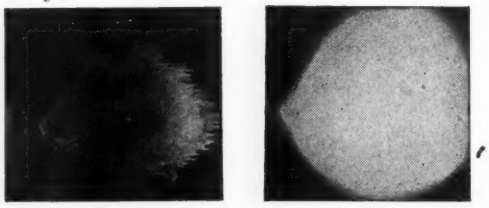
The accessories covered in the film include thermostat conversion kits for heaters equipped with AP manual controls, Oilifter fuel pumps and Trapit oil line filters. Basic selling points outlined in the film tell the dealer where to locate his prospects, how to make the sale and illustrates ease of illustration. Groups of dealers can arrange for a showing of the film by contacting the company's main office.

Wheelco Moves Branch; Changes Personnel

THE WASHINGTON, D. C, office of Wheelco Instruments Co., Chicago, has been moved to new quarters at 2285 Rhode Island Ave. Robert Smith is in charge. Clarke H. Joy, former director of sales in the Cleveland area, has formed the Clarke H. Joy Co., specializing in the sale of industrial temperature con-

This Change

Saves 30% On Any Burner.



Same Burner, Same Tip. Actual photos from open flames.

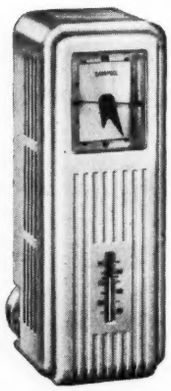
Franchised Dealers may now purchase Hollow Flame AIRFLAME Combustion heads to rebuild replaced burners.

Manufacturers Agents Wanted to sell Franchises to dealers qualified to sell Burners and Boiler Burner Units with the new Airflame Eventrol System. Supplies year round hot-water and more even, uniform heat than any other forced circulation system at considerable fuel savings.

Dealers qualified to sell, install and service write for direct Factory Franchise.

Airflame

648 McAlister Ave. Waukegan, Ill.



Sampsel Day-Night Clock Thermostat

A Complete Line of Quality Controls

There is a complete line of proven, dependable Sampsel controls for finer performance, easy installation, and freedom from servicing. Write for illustrated catalog.

SAMPSEL TIME CONTROL, INC., Spring Valley, Ill.

Sampsel
AUTOMATIC CONTROLS

Canadian Sales Distributor: PEASE FOUNDRY CO., Ltd., Toronto 1

trols, including Wheelco products. To succeed him, the company has designated J. P. Cantor as manager of the new district office established at 4501 Prospect Ave., Cleveland. Herbert Proske, veteran sales representative, has been promoted to the position of assistant district manager of the New York office.

G-E Promotes Bloomfield Personnel

PROMOTIONS and additions to personnel employed at the Bloomfield, N. J. plant of General Electric Co. have been announced recently. In the Air Conditioning Dept., E. W. Roessler has been appointed to the staff of the manager of engineering to undertake special technical assignments. He joined G-E in 1928 as a test student and was one of the first engineers assigned to the Department when it came to Bloomfield in 1935. His last assignment had been engineer, technical services engineering division, to which post C. L. Fay has been named. Mr. Fay formerly was with Bell Aircraft Corp., Buffalo and United Aircraft, East Hartford, in engineering capacities.

Other appointments saw R. F. Hertel advance to the position of engineer, automatic heating equipment division. He joined G-E as a test student in 1936 and later worked at the Ft. Wayne plant. In 1946 he transferred to Bloomfield and became assistant to the managing engineer, automatic heating in 1947. The fourth personnel change was the appointment of C. F. Suesserott as designing engineer, automatic heating equipment division. He, too, has a background of experience with G-E, dating from 1930 as assistant to various plant executives in Schenectady, until he transferred to Bloomfield in 1938.

Munn and Steele Opens New England Factory

A PLANT, equipped with latest Munn-Steele vermiculite processing machinery to produce Micafil for all purposes, was opened in Febraury at Castle Island, Boston, by Munn and Steele, Inc., Newark 5, N. J. The new factory is in charge of William Edinberg, vice president.

The company operates entirely with Palabora South African vermiculite ore, producing home insulation, Mascrete concrete and plaster aggregate, cold stor-

Koven

WATERFILM BOILERS

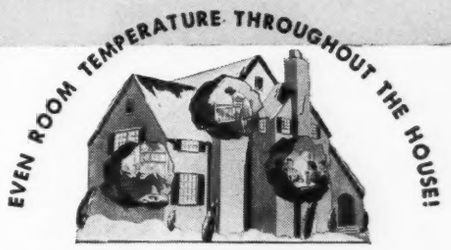
FOR ECONOMICAL, QUICK HEAT

Leading architects and builders specifically recommend KOVEN WATERFILM BOILERS for quick heat, even room temperature and an abundant supply of domestic hot water at all times.

Trimly designed in modern jackets, there are models and sizes for small homes, apartment houses and large industrial plants. For these larger installations, the Sectional Boiler can be taken through a 2-ft. door, assembled without expensive alteration or rigging costs, and is easily enlarged by adding sections.

500-17,850 E. D. R.

Write for free literature and newspaper mat service. NATIONALLY ADVERTISED.



WATERFILM BOILERS, Inc.

A Division of L. O. Koven & Bro., Inc.

154 Ogden Avenue · Jersey City 7, N. J.

FOR AUTOMATIC FIRING WITH OIL, STOKER OR GAS

age and industrial grades, as well as fireproof plaster and high temperature products. In addition, it distributes raw ore to American and Canadian vermiculite operators by direct import from its affiliated mines in the Transvaal.

Service Schools To Brief Outlets On Evans Products

A SERVICE SCHOOL has been announced by C. C. Van Wagoner, national service manager, Heating and Appliance Div., Evans Products Co., Plymouth, Mich., to provide instruction to dealers and distributors on Evans' line of oil-burning home heaters, furnaces and water heaters. The first three weeks of January, as an initial step in the program, were spent on instruction of district representatives at the company's service school in the Plymouth plant.

Service meetings will be conducted in the field, Mr. Van Wagoner revealed, but whenever necessary distributors and dealers will be urged to come to the plant where complete visual and instructional training facilities are available. Actual on the job training and discussion periods will be provided during these sessions. Besides company instructions, representatives of companies who supply parts will present information as it concerns application of their products.

Bob Sloan, *Automatic Products representative explains function of oil control valve to Evans district service managers.*

Tax Return Booklet Provided By Fitzgibbons

IN THE WEEKS preceding March 15, Fitzgibbons Boiler Co., New York 17, N. Y., distributed a helpful booklet, "How to prepare your 1947 Tax Return." Content of the book was prepared by The Research Institute of America, Inc., and offered specific information on which return to file and how to fill out both the short form and regular return.

Separate sections explained in detail what constituted legitimate deductions and exemptions, while three check lists showed receipts on which no tax was payable, deductible items and items which could not be deducted.

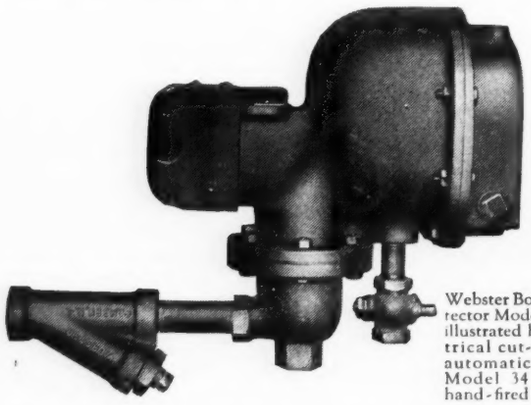
Shell Booklet Is Business Economics Primer

"PETE IS A PRIME MOVER," title of a new booklet, prepared by Shell Oil Co., New York 20, N. Y., clarifies the principles of the American economic system and the operation of modern corporate business. It employs a combination of lively illustrations and brief text blocks to tell its story. Distribution will be made not only to company employees and dealers, but also to business leaders, educators, government officials and others interested in broadening understanding of the workings and benefits of industrial enterprise.

Prepared under the direction of H. L. Curtis, assistant to the president, the booklet is in the form of narration by

Protection Against Accidental Low Water

Ask your Webster Representative for immediate delivery of the service-proven Webster Boiler Protector. It's the only protector incorporating a powerful hydraulically actuated mechanism—delivers maximum capacity instantly. Simple to install, easy to operate, dependable in service.

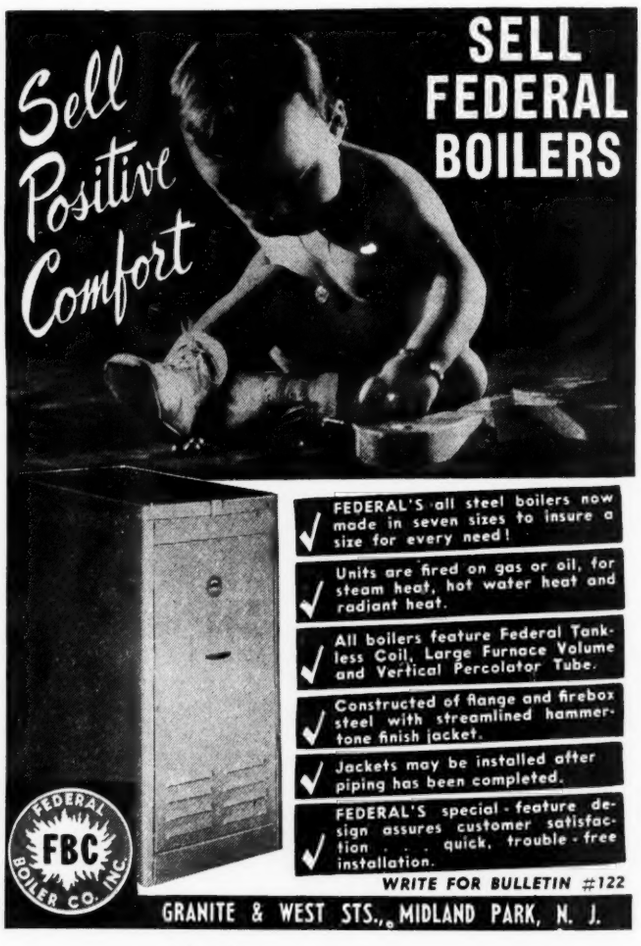


Webster Boiler Protector Model 34 C-1 illustrated has electrical cut-out for automatic heat. Model 34 is for hand-fired boilers.

Bulletin on request, address Dept. F-3

WARREN WEBSTER & Co., Camden, N.J.
Representatives in principal Cities : : : Est. 1888
In Canada, Darling Brothers, Limited, Montreal

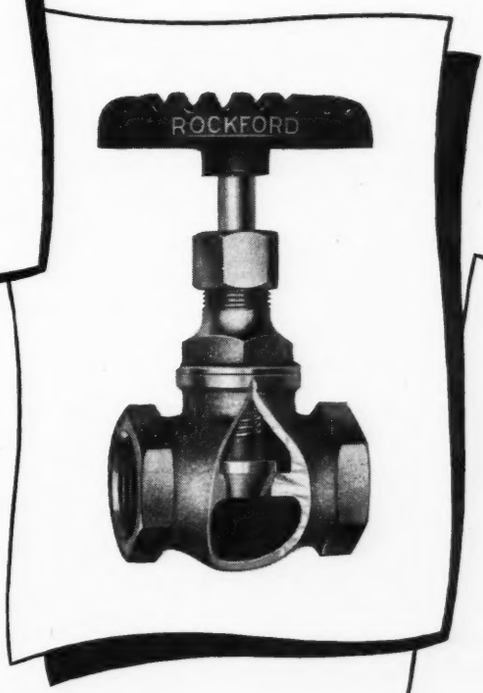
BY THE MAKERS OF
Webster
HEATING SYSTEMS


Sell Positive Comfort
SELL FEDERAL BOILERS
FEDERAL'S all steel boilers now made in seven sizes to insure a size for every need!
Units are fired on gas or oil, for steam heat, hot water heat and radiant heat.
All boilers feature Federal Tankless Coil, Large Furnace Volume and Vertical Percolator Tube.
Constructed of flange and firebox steel with streamlined hammertone finish jacket.
Jackets may be installed after piping has been completed.
FEDERAL'S special-feature design assures customer satisfaction . . . quick, trouble-free installation.
FEDERAL BOILER CO. INC. FBC
WRITE FOR BULLETIN #122
GRANITE & WEST STS., MIDLAND PARK, N. J.

ROCKFORD *Precision Made* VALVES

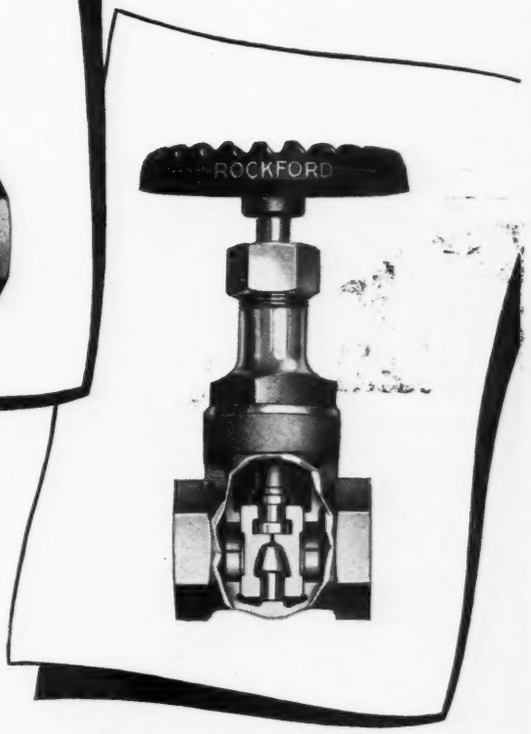
FOR OIL CONTROL

814A ANTI-HUM VALVE . . . Rockford oil burner line control valve throttles out objectionable burner noise with perfectly balanced control. Phosphor bronze ball and spring . . . special Rockford stuffing box with oil proof packing. Made in ⅜" female I.P.S. only.



Ahead in design, Rockford Precision-Made Valves are sturdy, fast-acting, thoroughly dependable, and guaranteed to function efficiently on all jobs for which they are recommended.

No. 814 BRONZE SEMI-PLUG TYPE VALVE . . . Specially designed for oil line service . . . also used for water, air, gas, steam and general purpose. Note cutaway view showing special improved Rockford design of stem and seat. Sizes range from ¼" to 2".



No. 819 BRONZE GATE VALVE . . . Capable of handling jobs, with absolute safety, up to 125 lbs. working pressure. A sturdy, quality built valve with double disc, rising stem and oil proof packing. Thoroughly dependable on oil, water or steam lines. Sizes range from ¼" to 2".

ROCKFORD BRASS WORKS, ROCKFORD, ILLINOIS, U. S. A.

ROCKFORD BRASS *Valves*

fueloil & oil heat

"Pete," an animated oil droplet, representing the petroleum industry. Other characters, personifying the steel and electric industries, also are introduced to make it clear that the subject applies to any or all industries. The story contrasts modern American living standards with living in former days and in other parts of the world today, and shows how the U. S. economic system functions through development of mass production and sales, and multiple ownership. Using the oil industry as an example, "Pete" relates the part of shareholders in business and traces the dividing and spending of a typical corporation's income. It finally enumerates the groups who benefit from our economic system.

The booklet also has been arranged as a sound slide film, intended primarily for company employees, but available by special arrangement to outside groups.

Perfection Stove Adds Gas Appliances To Line

ADDITION of natural, manufactured and L.P. gas ranges and water heaters to its oilburning line has been announced by Perfection Stove Co., Cleveland, Ohio. The company, celebrating its sixtieth year in business, began making oilburning home stoves in 1894, water heaters in 1912 and the Superfex line of furnaces in 1932. The modern line includes domestic and industrial oil and gas furnaces, oilburning cook stoves and ranges, water heaters and home heaters.

Its Platt and Ivanhoe plants provide a million cu. ft. of working space, with an expansion program at the Ivanhoe under way to increase that plant's floor space by almost 50%.

Scranton Factory For Trane Convector-Radiators

PLANS have been completed for construction at Scranton, Pa., of an eastern branch of the Trane Co., LaCrosse, Wis., manufacturers of heating, cooling and air conditioning equipment. The new plant will be used to meet the increased demand for Trane Convector-radiators and may be used for other products at a later date. The move is designed to transfer a portion of Trane's production closer to eastern markets and to raw material sources. An eighteen acre plot, which will permit further expansion, has been selected for the one story, brick and cinder block structure, 170 x 410 ft., with slightly under 70,000 sq. ft. of floor space. Construction is expected to be completed about mid-year, with production to begin shortly thereafter.

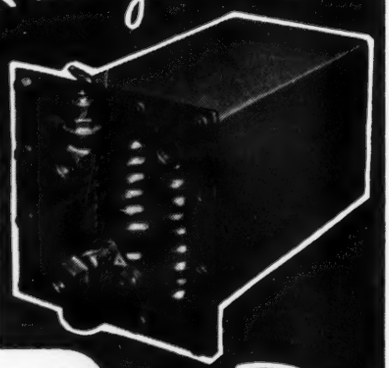
Company headquarters will remain at LaCrosse, with facilities freed there by the new factory, used for increased production of other Trane lines and fabrication of new products.

Electro-Watt Promotion Includes Radio Program

EACH SUNDAY afternoon Electro-Watt, Inc., Seattle 9, Wash., sponsors a radio program on Station KOMO in Seattle, as the latest addition to its advertising and promotion campaign. The weekly program features Marilyn King, vocalist and Frank Sugia and the Townsmen. Radio copy, and other advertising material, features the quiet economical operation of Balanced Flame oilburners, and Radiant-Aire console and HiBoy furnaces, which the company manufactures.

Standard Advertising Agency, Seat-

Hot Water with Greatest of Ease



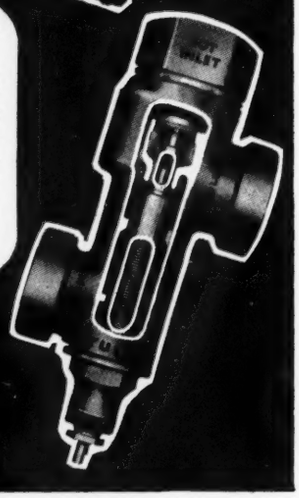
C.H.M. Residential Shell Tankless Heaters (Can be used with steam or hot water heat)

C.H.M. In-Boiler Tankless Heaters (For Residences, Apt. Houses, Industrial Buildings) Can also be furnished as in-boiler heaters.

YULA MIXING VALVE

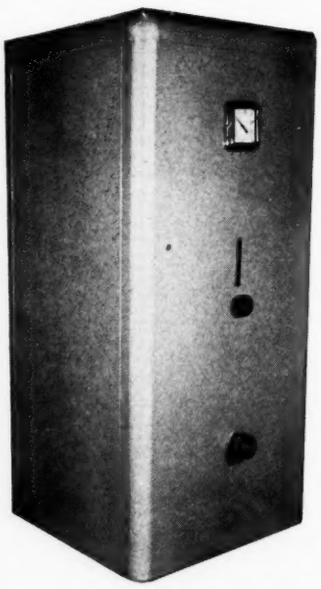
The Yula Mixing Valve perfectly tempers hot water to predetermined temperatures for domestic use at lowest cost. It "tops" them all.

WRITE FOR CATALOG to Dept. F3



Yula
WATER HEATERS, INC.
166 WEST 225 ST. • NEW YORK 63

"THE PROOF OF THE BOILER IS IN THE HEATING"



ENGINEERED for economy, efficiency, accessibility.

DESIGNED for eye-appeal, space.

APPROVED by ASME —Hartford Steam Boiler Insurance Co.

AFFORDS Customer Satisfaction and Dealer Profits.

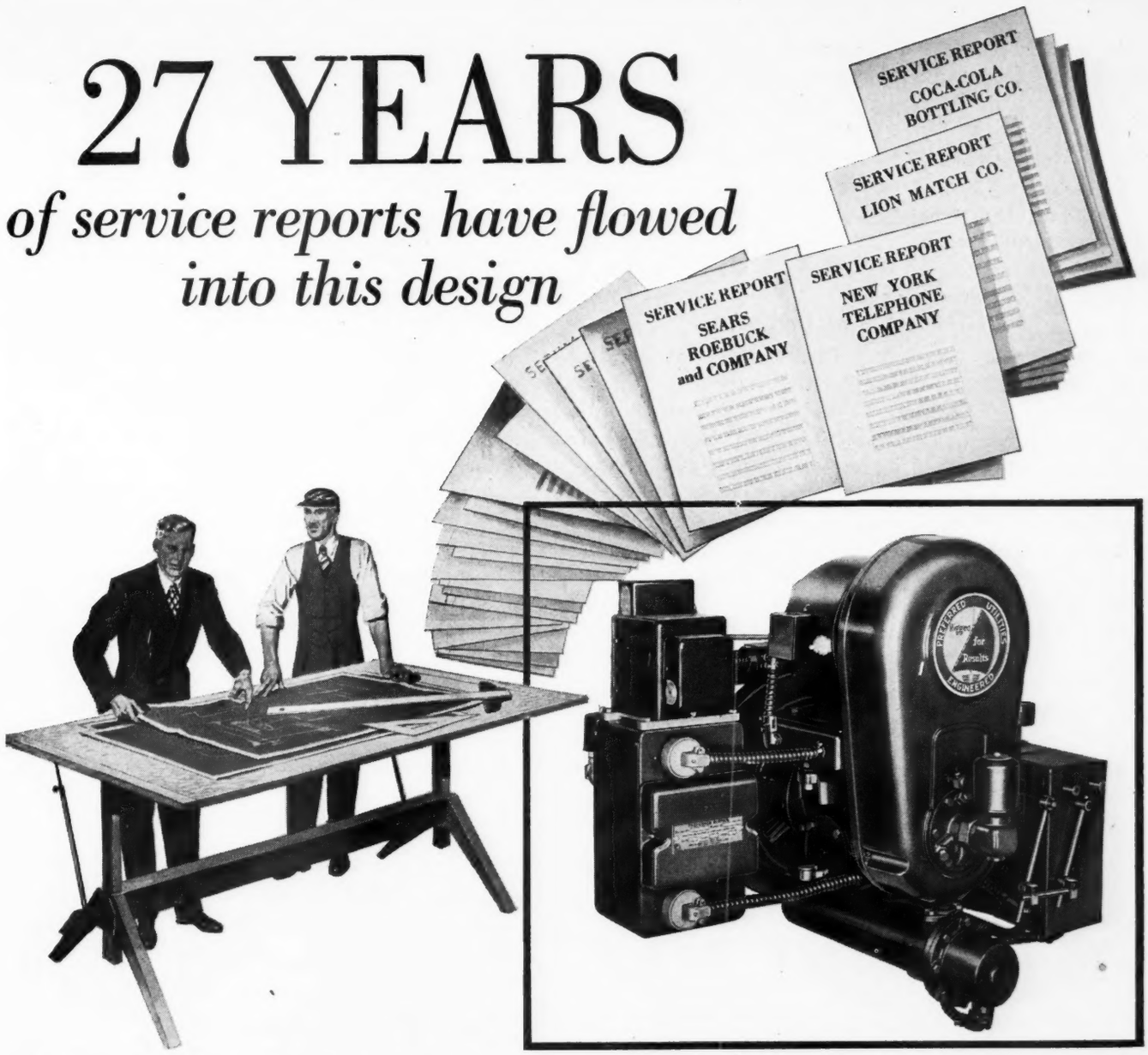
• Opalescent Gray Cabinet

For further information write

HEATMASTER BOILER
Pressure Vessel Service, Inc.
701 Penobscot Building Detroit 26, Michigan
Cherry 0717

27 YEARS

of service reports have flowed into this design



Dealer experience — *your* kind of experience — has guided Preferred's designers in the development of the new Belt-Driven Horizontal Rotary-Type Heavy-Oil Burner.

Before becoming a manufacturer, Preferred was active as dealer, installer, and then distributor. This invaluable experience has put Preferred in an ideal position to design a burner with all the sales features which help ring the cash register, and — what is equally important — simplify installation and reduce maintenance.

Look at these outstanding features . . . you will agree that this burner was designed the way *you* would have designed it. For complete details, write for Bulletin 175.

Outstanding features of this new burner include:

DUAL-PUMP RESERVOIR — maintains a constant discharge volume.

PATENTED "VOLUVALVE" FUEL REGULATION — meters predetermined quantity of oil regardless of variations in temperature, pressure or viscosity.

HIGH-SPEED BELT DRIVE — provides higher cup speeds to atomize the new heavy catalytic oils.

PRECISION AIR-OIL CONTROL — maintains accurate proportions of air and oil for most efficient combustible mixture.

BETTER ATOMIZATION — extra long atomizing cup driven at high speeds provides better atomization.

See Preferred's complete line of oil burners at booth 125 National Oil Heat Exposition

PREFERRED UTILITIES MANUFACTURING CORPORATION, 1860 Broadway, New York 23, N. Y.

PR-165

PREFERRED UTILITIES MFG. CORP.

tle, handles details of the company's campaign, and prepares newspaper advertising which features the budget terms available on Electro-Watt equipment. According to Robert Denny Watt, president, the company was a pioneer in the area to dispatch fueloil trucks by radio.

Timken Acquires Stoker Division Of Link-Belt

TIMKEN-DETROIT AXLE CO., Detroit, Mich., has acquired the Stoker Div., Link-Belt Co., Chicago, it was announced on February 12 by Walter F. Rockwell, president of Timken. Link-Belt Stoker Division's manufacturing, sales and service organizations will continue to function under the supervision of the Timken Silent Automatic Division, Jackson, Mich., and there is planned a program of sales promotion through Link-Belt's present nation-wide distributor, jobber and dealer outlets.

With the acquisition of the new division, Timken Silent Automatic's line of home heating equipment is rounded out to include the full line of anthracite and bituminous stokers, both hopper and bin-fed for domestic, commercial and industrial uses, which Link-Belt has been producing since 1933. This equipment will augment the present line of Timken wall flame oilburners, oil and gas furnaces and boilers, water heaters and related products.

Iron Fireman Votes 56th Consecutive Dividend

AT ITS ANNUAL MEETING held in Portland, Ore., marking its 25th year of operation and attended by voting trustees and directors, Iron Fireman Mfg. Co. declared its fifty-sixth consecutive quarterly cash dividend, in addition to three special dividends paid during the same period. The dividend for 1948 will amount to $1.20 per share, payable quarterly. It was revealed at the meeting that sales increased last year 112% over 1946, reaching a total of $12,-810,541.

The meeting also was told that during last year two new plants were constructed and put in operation, one of which houses a factory retail branch, bringing to seven the total of company-owned retail outlets in metropolitan areas. Iron Fireman, which in its early years made only coal stokers, now produces domestic and industrial equipment for coal and oil, and domestic gasfired units.

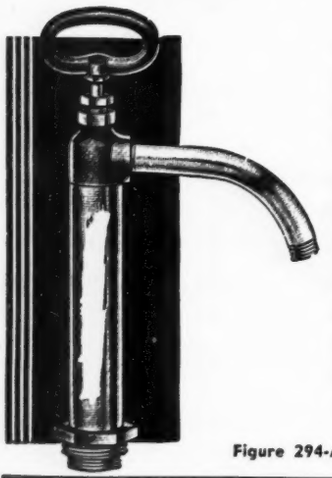
Indiana Standard Subject Of Documentary Film

THE CHICAGO preview of a documentary motion picture, "Oil and Men," was shown on February 26 and 27 to employees of Standard Oil Co. (Indiana). The film is the first picture made by March of Time for an industrial concern since it recently entered the commercial picture field. Westbrook Van Voorhis, the familiar "Time Marches On" voice speaks the film narrative. The sound film reviews what the company is, its relation, its environment, its functions and the service it renders. Only thirty minutes in length, the picture tells its story by presenting representative samples of Standard people and activities.

Preview parties were held at various times throughout the company's territory of fourteen Middle West states for employees and families. In Chicago, the

A Necessity for Every Oil Burner Man

TANK SLUDGE PUMP



A handy, efficient, rust-proof pump for removing water or other foreign settlings from tanks.

Pump is made entirely of bronze with the exception of the iron handle. Shell is heavy seamless bronze tubing. Pump is threaded with ¾" female iron pipe thread. Base for ¾", 1½" or 2" I.P.T.

Figure 294-A

Oil Burner Nozzles • Fusible Valves • Vent-A-Larms • Copper Tubing Fittings • Ignition Wire • Minneapolis Honeywell Controls • Pumps and Valves Rebuilt or Exchanged.

Write for Prices and Send Orders Direct to

OIL EQUIPMENT CENTER

Wholesale Supplies

Box 921

77 BREWSTER STREET NEW HAVEN 6, CONN.

ONE STOP SERVICE

Increase Your Profits!

with the "COMPLETE PACKAGE"

"Kaustine" automatic dual-tank

WINTER AIR CONDITIONER

Compete in the widest possible market with the flexible price range that only "Sales Engineered" Kaustine completely automatic DeLuxe equipment can give you.

★ The "Complete Package" unit includes Furnace, Burner, Controls and two 275 gallon Storage Tanks (with underwriters' label).

"Sales Engineered" for

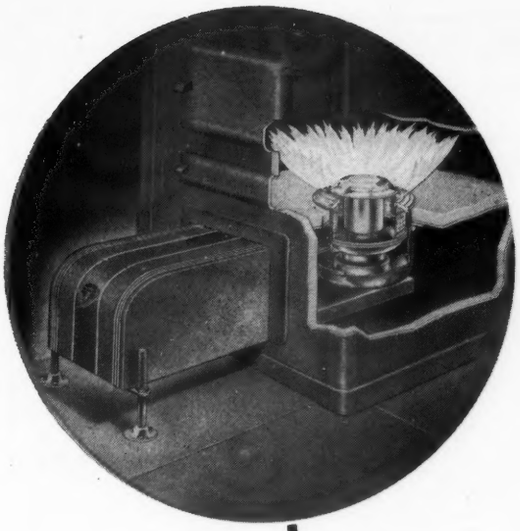
LARGER MARKETS and GREATER PROFITS!

OIL FIRED

Designed and Manufactured by

KAUSTINE COMPANY, INC.

PERRY, NEW YORK

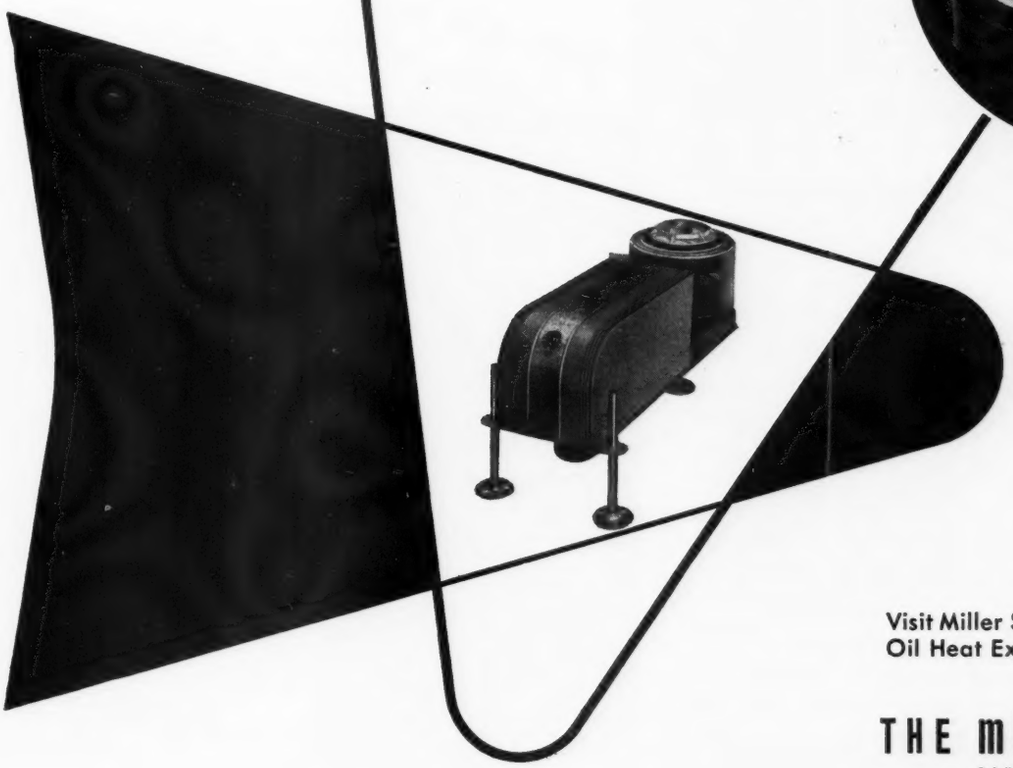


You can dominate the market for SMALL HOME HEATING — secure vast replacement business — with the Improved MILLER Conversion Oil Burner

The Miller Conversion Oil Burner provides automatic heat for 4 to 6 rooms. Comes as a complete package, with MILLER made controls. Complete combustion of carbon on each operating cycle. Burns only 9/10ths gal. 1, 2 or 3 oil per hour at high fire. Can be installed in warm air furnaces, or steam or hot water boilers. Positive flame control. Fewer moving parts. Quality Controlled Production. Quiet operation. Easy to install. Listed as standard by Underwriters' laboratories. Carries Commercial Standards Label CS75-42.

THE MILLER OIL BURNER IS BACKED BY 104 years' experience in the building of oil-burning devices.

Franchises available. Wire or Write today!



Visit Miller Spaces 210-212 at National Oil Heat Exposition, Chicago, April 5-8

THE miller COMPANY

SINCE 1844

HEATING PRODUCTS DIVISION, MERIDEN, CONNECTICUT

ILLUMINATING DIVISION: Fluorescent, Incandescent, Mercury Lighting Equipment
HEATING PRODUCTS DIVISION: Domestic Oil Burners and Liquid Fuel Devices
ROLLING MILL DIVISION: Phosphor Bronze and Brass in Sheets, Strips and Rolls

kramer

fuel oil & oil heat

EMERGENCY
OIL BURNER SERVICE

Exact License Plate Size
6" x 12"
Dealer Price
$1.00 each

Each sign made of tough, durable masonite. Painted in Red & White enamel.
If your jobber cannot supply you write direct—

OIL AIDS
P. O. BOX 525
ALBANY 1, N. Y.

CAUTION
WATCH
YOUR STEP

Conventional Size
10" x 13"
Price: $2.25 each

parties were featured by a special entertainment program, recognition of employee service and brief talks.

Because of its educational value, the company has arranged to make the film available to schools, clubs and other groups. Applications can be submitted to the Public Relations Department, Standard Oil Co., Chicago 80, Ill.

Form Fifth Corporation, Sid Harvey of Md., Inc.

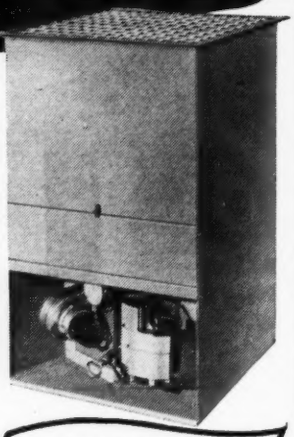
FORMATION of Sid Harvey of Md., Inc., brings to five the corporations affiliated with Sid Harvey, Inc., Valley Stream, N. Y. The new set-up, which is expected to begin operations about April 15, will be located at 347 Cedar St., N. W., Washington 12, and will serve the oilburner trade in the District of Columbia, southern Maryland and northern Virginia. William C. Archer is president, Sid Harvey, chairman and Lawrence Harvey, vice president and secretary.

The new outlet will serve as a pick-up point for oilburner repair parts in which the organizations specialize and will include a complete stock of pumps, valves, controls and motors for immediate exchange, and other repair items. Ten such points now are operated by affiliated organizations in New York, Pennsylvania, New Jersey and Massachusetts.

◈

Norman Products Co., Columbus, Ohio. Illustrated consumer folder, "Your Next Step to Better Living," in full color. Describes Norman hydroxylating conversion oilburner and points out advantages of the shorter, swirling flame produced.

MORE PROFITABLE BECAUSE IT'S A
Package Unit
FLOOR FURNACE



ONLY DOMESTIC OFFERS ALL THESE ADVANTAGES

Domestic's oil-burning floor furnace comes *ready to install.* All controls are permanently located and electrically wired *at the factory.* Three simple connections: Oil line, smokestack, and electricity. "Backed by 14 years experience." Competitively priced. Attractive discount basis.

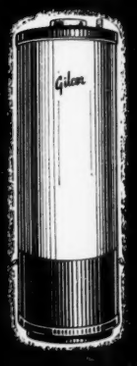
★ ★ ★

KEY SPECIFICATIONS: 50,000 BTU/HR output; register, metal-plated with statuary bronze; casing 24" wide, 24" deep, 43" high Listed with Underwriter Laboratories. Write for more complete details.

HERE NOW!
Domestic's Conversion Burner with ½ c.c. pilot.

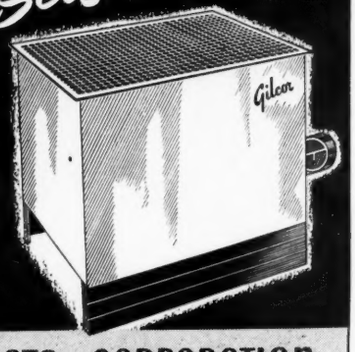
DOMESTIC COMPANY
2922 WESTERN AVENUE • SEATTLE 1, WASH.

You get more with Gilcor
A BETTER PRODUCT



OIL BURNING
WATER HEATERS
FLOOR FURNACES
AIR CONDITIONING FURNACES

DESIGNED TO Sell.. PROFITABLY



GILCOR PRODUCTS CORPORATION
DOWAGIAC, MICHIGAN

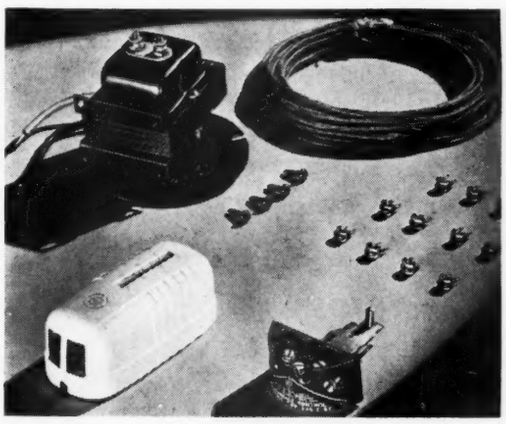
FOR YOUR NEW FLOOR FURNACES...

This DEPENDABLE MODEL 240-GYR CONTROL

Offers Dual Safety Features ..Plus Optional Thermostatic Heat Regulation

A-P Model 240-GYR Control for Vaporizing Burner Floor Furnaces

Your vaporizing oil burning floor furnaces too, will benefit by the unusual combination of features found in this A-P Model 240-GYR Control. In addition to typical accuracy in manual operation for all desired burner positions, the 240-GYR has a safety temperature limiting feature consisting of a charged thermo element that snaps off fuel flow should grill temperature rise to dangerous level (due to unusual circumstances such as a covered floor grill).



A-P Model 240-EGY Conversion Set for Thermostatic Heat Regulation on Floor Furnaces

ADAPTABLE *AT ANY TIME* TO THERMOSTATIC HEAT REGULATION

The extra comfort and convenience of Thermostatic Temperature Regulation is *optional at any time* when your floor furnaces are equipped with the A-P Model 240-GYR. To convert to Thermostatic Control simply attach the A-P Model 240-EGY Conversion Set. The Set is complete, including a conversion top, heat-anticipating thermostat, transformer, wiring and staples.

• • •

New Developments in Oil Control . . . New A-P Oil Control devices are usually ready to meet your more advanced engineering in oil heating, for A-P research and designing engineers are constantly anticipating the needs of your progressive industry months and years ahead. Call upon A-P engineering service for a profitable solution to your standard or special fuel control problems. A-P DEPENDABILITY is good "performance-insurance" on any vaporizing oil burning appliance — furnace, range, space heater or water heater.

AUTOMATIC PRODUCTS COMPANY

2458 North Thirty-Second Street, Milwaukee 10, Wisconsin

DEPENDABLE *Oil Controls*

DESIGNED TO ELIMINATE SERVICING

fuel oil & oil heat

Everyday Snags

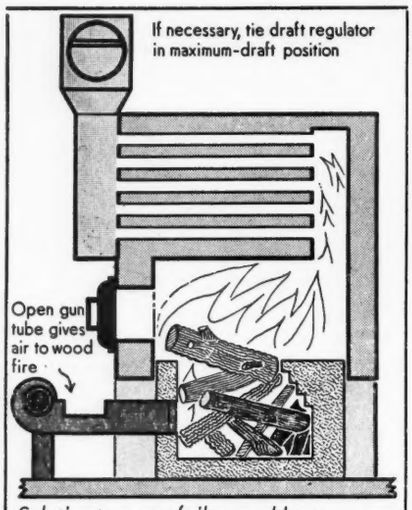
Heat With No Electricity

A certain unusually resourceful home owner proved, a few months ago, that he can have plenty of heat when the worst sleet storm in ten years cuts off his electricity and keeps his burner idle.

Without even a say-so from heating experts, he promptly fired his steam boiler with wood, kept on hand for his open fireplace. Figuring out for himself that the wood needed air for combustion, he provided this by removing a cover from the gun tube of the burner. He is properly proud about this: The wood blaze raised steam pressure with all the radiators turned on, and of course provided the usual hot water.

When the electricity came on again, he replaced the cover on the gun tube, turned on the oilburner main switch, and permitted the oil flame to blow away the wood ashes. He declares it was not necessary to clean the flues of ashes.

Connected to a one-pipe steam heating plant, this modern boiler is designed for oil. It can not be fitted with grates.



Solution to power failure problem: *Fired by wood, steam boiler easily raises pressure -- gives ample heat.*

But the combustion space door is as large as the firing door of a boiler built for coal, and this permits firing cord wood. Easily arranged for proper burning by anyone who knows how to stoke a fireplace, this blazes for three or four hours without attention.

Although this was not done in this particular instance, the nozzle assembly could be removed from the gun tube of a burner when wood is fired. Greater amounts of air, if needed, would then flow through the gun tube, and assurance might be gained that the nozzle assembly and ignition system would be in good condition later for the return to oilfiring. Whether or not the nozzle assembly should be removed depends on the design of the burner.

* * *

Burner Off on Safety

"Going off on safety" is an important cause of service calls. Either the burner owner re-sets the safety button or lever himself, then calls for service, or the service man finds the house cold and has to re-set the safety to start the burner.

Frequent going off on safety on an installation which operates perfectly when the service man tests the burner can be cured quickly only by a demonstration of patience and technical skill.

When the safety controls stop a burner, one of two things is to blame. First, the burner failed to light when it should, or burned oil erratically, and properly was stopped by the safety control; the trouble is in the burner or in something

SUBSTANTIAL PROFITS *for* YOU— *Cleaning Furnaces with the* GRAND RAPIDS *De Luxe* FURNACE CLEANER

You can put furnace cleaning on a money making basis by using a Grand Rapids Furnace Cleaner. High velocity suction scoops up all deposits of soot, ashes and carbon, cleaning the heating plant and re-establishing full efficiency. Special attachments clean flues, radiators, right angle turns and other hard-to-reach areas. The job is done quickly and completely. Customers are highly satisfied.

The Grand Rapids DeLuxe Furnace Cleaner is also your "in" for more than cleaning profits. By checking over and inspecting the heating plant as you clean it you are in a position to make timely recommendations for new equipment or repairs. This means better service for customers . . . more profits for you.

Write for complete information and prices today.

DOYLE VACUUM CLEANER CO.

233 Stevens St., S.W. Grand Rapids 7, Mich.

Fiske Boiler-Burners • Furnace-Burners • Floor Furnaces • Water Heaters

The chance of a lifetime for a limited number of dealers

FISKE

"Lifetime" FRANCHISES

on the complete FISKE LINE of Oil and Gas Home Heating Equipment

- **Quality Products—Priced to Sell!**
- **Exclusive Territory**
- **No large unbalanced inventory required—stock only WHAT you need, WHEN you need it!**
- ***Year-round* LOCAL ADVERTISING—*over your firm name—at absolutely no cost to you!***

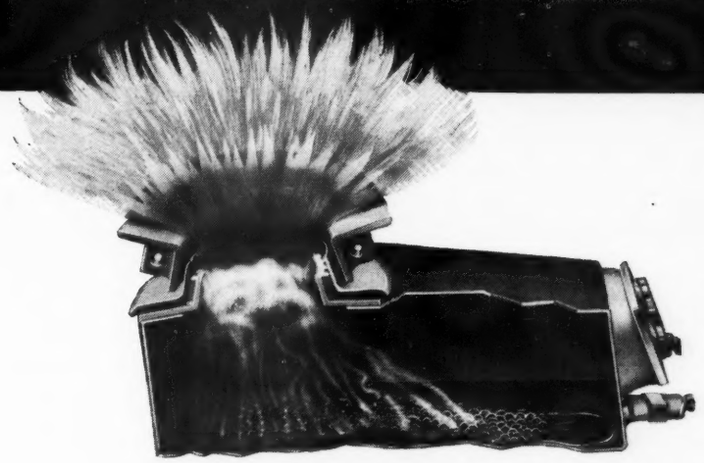
If you're interested in a permanent business in your community—or a profitable supplement to your present lines—ACT TODAY! Write for complete details.

FISKE PRODUCTS, INC.
Mt. Kisco, New York

Fiske Space Heaters • Electric Heaters • Conversion Burners • Circulators

IS THE OIL SHORTAGE THREATENING YOUR OIL HEATER SALES?...

Not if You Sell the Spark Oil Burning Heater



Spark burns No. 3 oil with a clean, clear, fan-shaped flame—more heat at lower cost per gallon of fuel.

SPARK HEATERS *burn* NO. 3 FUEL OIL!

Spark oil burning heaters are approved by Underwriters' Laboratories, Inc. to burn No. 1, No. 2 and No. 3 oil.

No. 3 oil (furnace-diesel oil) is readily available. Though lower in price, it gives 4000 more B.T.U.'s per gallon—a definite saving of fuel.

Since 1902 SPARK Stove Co., Inc. has been in the stove business, exclusively. If you would like to join the group of Spark dealers, write today for full information.

SPARK MODEL 4070

SPARK OIL BURNING HEATERS

A PRODUCT OF
SPARK STOVE CO., INC.
(FORMERLY HAMMER-BRAY CO., LTD.)

SPARK Stove Co., Inc., Dept. F-3
2619 E. 12th Street, Oakland 1, Calif.

Gentlemen: I am interested in becoming a Spark dealer. Please send me full information.

*Name*_____

*Firm*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

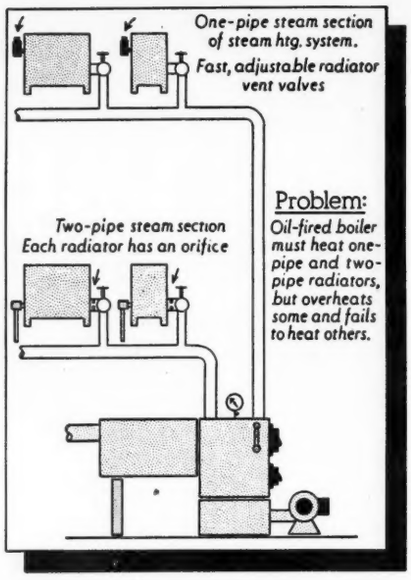
that caused it to misbehave. Or second, the burner behaved as it should, but a defective, over-sensitive, or improperly-adjusted safety control device turned it off. The control stopped the burner wrongly, and the trouble is in the control panel.

Clear thinking and expert diagnosis are needed to end troubles related to a burner's stopping on safety every so often. The service expert has to decide if the trouble lies in (a) oilburner misbehavior, or (b) misbehavior of the control panel when the burner works properly.

* * *

Two Kinds of Radiators

As happens every so often, when a new steam heating boiler was installed in an old building to replace two worn-out boilers, a one-pipe heating system and a two-pipe heating system were hooked together. With steady pressure on the steam boiler, the both kinds of radiators heated well. The one-pipe steam radiators gave as much heat for their sizes as the two-pipe steam radiators. But with the on-off firing given by a large building heat control system,


One-pipe steam section of steam htg. system.
Fast, adjustable radiator vent valves
Two-pipe steam section Each radiator has an orifice
Problem:
Oil-fired boiler must heat one-pipe and two-pipe radiators, but overheats some and fails to heat others.

the two-pipe radiators heated quickly after the burner started and the one-pipe radiators scarcely heated at all.

Taking two steps ended the trouble and caused every radiator in the system to give the proper amount of heat at the end of a 30-minute oil burner "on" period:

First, an orifice to feed only the proper amount of steam was installed in the radiator feed valve of every one of the two-pipe radiators.

Second, a modern, fast, adjustable vent valve was installed on every one-pipe radiator.

Make certain to fire any steam plant hard enough to heat all the radiators properly. The burner which fires this large system usually runs for about 30 minutes at a time, and that length of "on" period is long enough to send steam to the radiators farthest from the boiler. But the boiler has to be fired so hard that running the burner steadily for an hour and a half produces two pounds steam pressure. Lighter firing of this system does not produce sufficient steam for proper distribution of heat to all parts of the building.

* * *

No Nozzle Strainer

When starting up and tuning up larger sizes of pressure burners, bear this in mind. If you equip the nozzle with a fine-mesh strainer, the strainer may catch dirt particles small enough to pass through the nozzle without giving trouble. A troublesome load of fueloil may cause the nozzle strainer to plug,

Easy to read at distances from all directions.

UNDERWRITER LISTED!

YOU take no chances with Sentry At-A-Glance gauges — for they are fully approved and listed as standard by the Underwriters Laboratories. Strongly built for extra long life, they will withstand more than 50 lbs. pressure per sq. inch. Simplified mechanism eliminates intricate parts which often cause trouble or wear out. Sentry gauges are designed and constructed at the factory to fit all tank sizes and shapes according to individual specifications. Economical . . . and guaranteed leak-proof.

Write for details today.

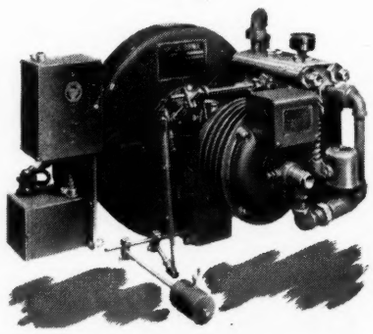
- NO SPRINGS
- NO CAMS
- NO GEARS
- NO MAGNETS

KRUEGER *Sentry* GAUGES

GREEN BAY • WISCONSIN

The OIL BURNER with an INTERNATIONAL REPUTATION

RAY



The Grand Champion Heavy Fuel Oil Burner!

The Ray Fully Automatic Type AR is ideal for—

- Automatic Heat for large residences, hotels, apartments, commercial and industrial buildings.
- Automatic Power for Industry.

There's a RAY Burner for *Every* Heating Purpose!

RAY OIL BURNER CO.

401 BERNAL AVE · SAN FRANCISCO

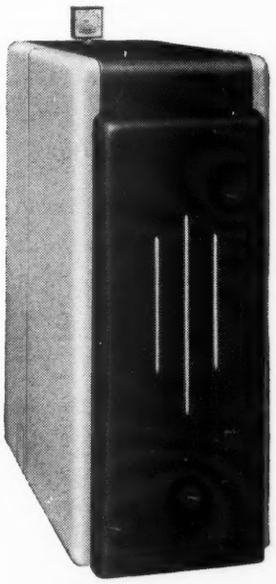
A FEW OPEN TERRITORIES STILL AVAILABLE IN THE U.S.A.

Now... National OIL HEATING UNITS in cast iron or steel

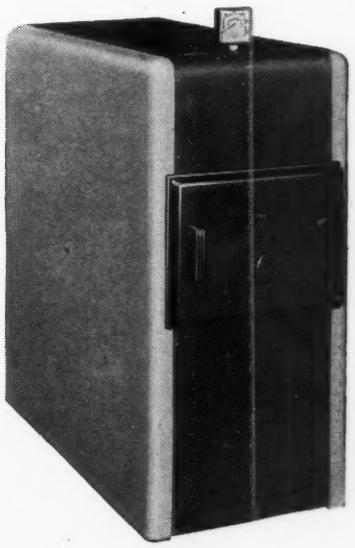
When buying Oil-Fired Heating Units, some people prefer cast iron; others specify steel. National now offers *both* in a wide range of sizes.

Every National Oil Heating Unit is equipped with a "custom-tailored" pre-cast refractory combustion chamber, dependable National Oil Burner, and all necessary automatic controls, ready for easy installation. The economical burners are readily accessible for servicing; they produce an intensely hot turbulent flame that is clean and efficient. Year 'round domestic hot water is provided by either storage or tankless water heaters. Attractively styled jackets, of heavy gauge steel with permanent baked enamel finish, enclose burner and controls.

National Units meet or exceed requirements of the construction and rating codes of all recognized authorities. They reflect, in every detail, our 50 years' experience in building quality heating equipment.



Cast Iron Units: Available in 10 sizes. Range: 230 to 880 sq. ft. steam—370 to 1410 sq. ft. hot water, (Net I=B=R Ratings). Features include multiple-flue sections with extended heating surface; heat conserver baffles; air-tight ground joints; heavy effective insulation; sloping firebox crown; and other features that assure long life and economical operation.



Steel Units: Available in 5 sizes. Range: 275 to 700 sq. ft. steam—440 to 1120 sq. ft. hot water (Net S.B.I. Ratings). Constructed of boiler plate steel; electric arc welded; self-cleaning True-Arch crown sheet; high quality Electrunite, horizontal tubes; turbulator tube baffles; heavy insulation; large access door. Built according to A.S.M.E. Code, Hartford Inspected. A compact, efficient unit, field-tested for over seven years.

When you need either cast iron or steel Oil Heating Units, you can now order them from one source. For additional information, call your nearest NRC heating sales branch, or write to The National Radiator Company, 221 Central Avenue, Johnstown, Pennsylvania.

The NATIONAL RADIATOR Company

JOHNSTOWN, PENNSYLVANIA

whereas if the installation had no nozzle strainer the dirt in the oil would pass through the nozzle and there would be no trouble.

High-capacity pressure atomizing nozzles do not have a pressing need for nozzle strainers where the suction lines or fuel units have filters or strainers which remove from the fueloil the dirt particles large enough to cause nozzle plugging. The futile plugging of a fine-mesh nozzle strainer, attached to a nozzle of such high capacity that the dirt caught by the nozzle strainer would not plug the nozzle, is worse than a cause of needless service calls. It can cause erratic burner operation for many days before the burner is stopped by it, for gradual plugging of a nozzle strainer reduces the pressure on the nozzle and can be responsible for poor atomization and even faulty ignition.

It boils down to this. In general, avoid the use of nozzle strainers for nozzles rated at higher than about 7.0 gph. To make certain you are doing the right thing, obtain data on the subject from the manufacturer of the nozzles you use. He should be able to tell you precisely which of his nozzles should be fitted with nozzle strainers and which are better off without them.

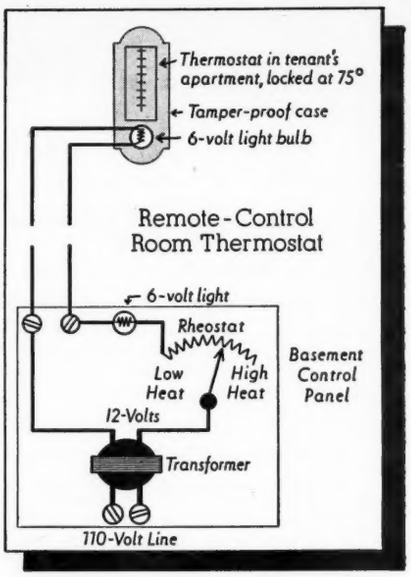
* * *

Trick Room Thermostat

"When I collect the rent in the six-family apartment house I own, I always notice the readings on the thermometers in the apartments," relates an electrical engineer. "If in general the temperature of the building is too high or too low, I go to the basement and adjust a special rheostat which I rigged up. This affects a room thermostat located in one of the tenant's apartments and is never touched by anyone, and makes the building cooler or hotter to suit me."

Here's the trick. The room thermostat, to begin with, was carefully set at 75°, then the lever used to set it was removed entirely and the setting mechanism was soldered in place. That makes certain that the thermostat will stay set at 75°.

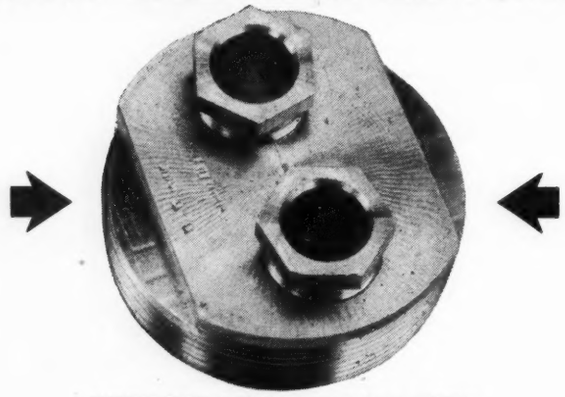
The thermostat is in a metal case which has screening at the top and bottom for air circulation. Also in the metal case, under the thermostat, is a 6-volt electric light bulb which has been dipped in black enamel so that it gives no light.



The current given to this electric light bulb (by a low-voltage transformer located in the basement) can be altered by a rheostat. Giving considerable current to the light bulb raises the temperature of the thermostat and lowers the temperature of the building. Giving the bulb no current raises the building

SUM-HIT SPECIALTIES CO.
ITS THE TOPS IN INDUSTRIAL SPECIALTIES
125 LINCOLN AVENUE NEWARK, N. J.

SUM-HIT DOUBLE TAPPED TANK FITTING



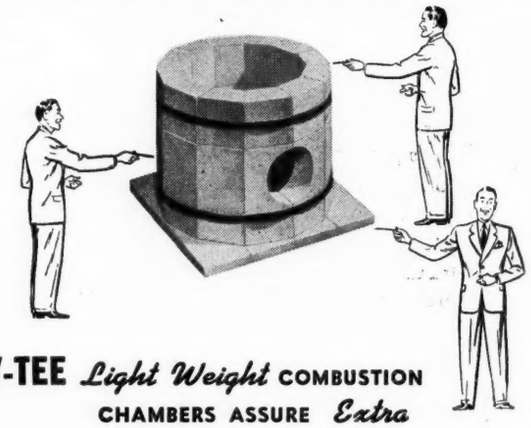
WRITE FOR SPECIAL SAMPLE OFFER

A genuine time saver. 2"x⅜" and 2"x¼". For use with ⅜" I.D. and ¼" I.D. tubing. Combines feed line and return line in one fitting; also provides auxiliary feed line for emergencies, when return line is installed at same level with supply line. SOLID BRASS insures lifetime service. Double squeeze bushings provide permanent connections. Also available with single ⅜" I.D. and ¼" I.D. tapping.

We make a complete line of high quality ball check valves.
All items sold exclusively through local jobber and wholesaler

"JAY-TEE" *Measures Up...*

TO EVERY REQUIREMENT *for a Rapid Heating ... Low Cost ... Light Weight Combustion Chamber for Your Conversion Burners!!!*



JAY-TEE *Light Weight* COMBUSTION CHAMBERS ASSURE *Extra* PERFORMANCE

Features:

- **Longer Life**
- **Cleaner Heat**
- **Oil Miser**
- **Easily Installed**
- **Fewer Service Calls**
- **Vermiculite back-fill included.**

Jay-Tee combustion chambers for oil burners are available from 1 GPH up.

For better service . . . lower fuel bills . . . more satisfied users . . . specify JAY-TEE Light Weight combustion chambers.

For additional data write:

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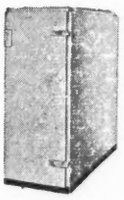
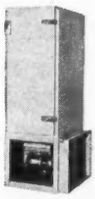
The MONCRIEF "HEATOMIC"

The LITTLE Unit that gets BIG results!



Series L
Gas Fired, Steel
Air Conditioning
Unit

Series W
Gas Fired, Steel
Gravity Furnace



Series U
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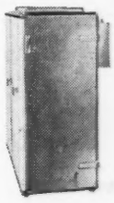
Utility Air Conditioning Unit

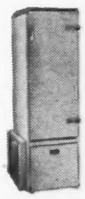
Series
AC-700-F

• **Like the atomic bomb, Moncrief's "Heatomic" all fuels, air conditioning unit is the talk of the heating market—it's the unit that lets-you-in on any heating job. Here's a new design in a coal-fired air conditioning unit that can be readily converted at any time, even after installation, to burn oil, gas or for stoker firing.**

The excellent design and construction of the rugged, steel heating element, with long fire travel and large heating surface provide the necessary qualifications for the versatility of this unit.

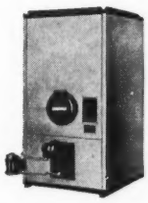


Series CL
Gas-Fired, Cast Iron
Air Conditioning Unit

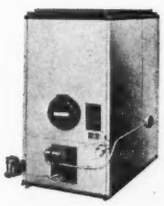


Series CU
Gas-Fired, Cast Iron
Utility Air
Conditioning Unit

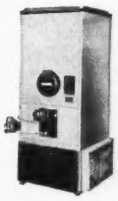
Series P
Oil Fired, Steel
Air Conditioning Unit



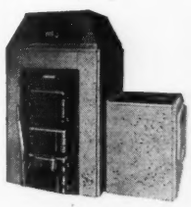
Series VW
Oil Fired, Steel
Gravity Furnace



Series VL
Oil Fired, Steel
Air Conditioning Unit



Series VU
Oil Fired, Steel Utility
Air Conditioning Unit



Series AC-700
Coal-Fired, Steel
Air Conditioning Unit

Series C
Coal-Fired, Cast
Gravity Furnace

Series 700
Coal-Fired, Steel
Gravity Furnace

THE HENRY FURNACE COMPANY

Medina, Ohio

HEATING AND AIR CONDITIONING UNITS — MONCRIEF SINCE 1895 — FURNACE PIPE AND FITTINGS

fuel oil & oil heat

temperature to the 75° for which the thermostat is set.

The 6-volt light bulb on the panel is a tattle-tale to tell if the light under the room thermostat is burning when it should be on. As the two bulbs are in series, a 12-volt transformer is used.

This set-up is purely experimental, says the engineer responsible for it, but it was installed quickly in spare time and is providing a kind of remote control over the action of the room thermostat. The tenants of the building understand that the landlord controls the building temperature in some way and they wonder how he does it without touching the room thermostat.

* * *

Gas for Ignition

Where bottled gas is used for the gas-electric ignition system of a horizontal rotary cup oilburner, a gas pressure control should be installed to prevent the burner from trying to light after the gas pressure has fallen too low for good, dependable ignition. Many dealers specializing in the big burners provide such "no-gas" safety controls for all their installations which use bottled gas. Some dealers wire the control to prevent the burner motor's trying to start when the gas pressure is low; other dealers wire the control in series with the magnetic oil valve of the burner, so that the oil valve cannot open if the gas pressure fails (then the burner motor will start, but the control panel will stop it "on safety"). There is no argument against installing a "no-gas" control for a big burner which uses bottled gas.

Here's a new development in this direction for certain dealers. Gas shortages on coldest days have caused drops in the pressure of piped gas. Where this has happened, along with affecting the pilots of gas stoves, water heaters, and other equipment, it has caused automatic horizontal rotary cup burners to give ignition trouble. If you service such burners in an area where shortages of piped gas has been given wide publicity, you may have to inform the owners of gas-electric ignition burners that now they should have you install "no-gas" safety controls. Where the pressure of piped gas becomes low at times of peak gas load, it is just as important to install such safety controls as it is on bottled gas installations.

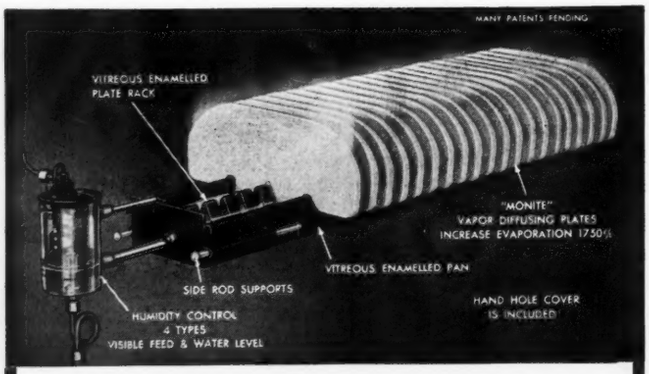
* * *

Avoid Breaking a Boiler!

Here's a word to the wise about one way to avoid ruining a boiler.

This particular cast-iron, round steam heating boiler had been in constant use for about 25 years and had never given any kind of trouble. It was hard-fired by an oilburner; probably the stack temperature ran between 900° and 1,000°.

The burner ran out of oil. The building was not occupied at the time, and the boiler room was located at first-floor level and so chilled quickly. By the time the fueloil was delivered, the boiler room and boiler were very cold, about 45°. A service man air-vented the fuel unit and stood there while the burner, with its hard firing, rapidly heated the cold boiler. Then there was a loud "Bang" as though a giant had hit the boiler with a sledge hammer. The water in the boiler, which had been at the proper level, poured out because the firepot section of the boiler had had a piece torn out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VITREOUS ENAMELLED PLATE RACK
"MONITE" VAPOR DIFFUSING PLATES INCREASE EVAPORATION 1750%
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SIDE ROD SUPPORTS
HUMIDITY CONTROL 4 TYPES VISIBLE FEED & WATER LEVEL
HAND HOLE COVER IS INCLUDED

MONMOUTH HUMIDIFIERS

There are many humidifiers for warm air systems on the market. Some of them sell for next to nothing. But unless such an automatic device gives high efficiency and continuous dependable service—*any* amount of money is simply thrown away on it.

With a Monmouth Flotrol or a Micro-Feed, both very profitable items for you in the first place, this profit is *not* eaten up by service calls. Designed on engineering principles which are unequalled, built of the finest materials, Monmouth is strictly a precision product, yet costs little more than makeshift devices. Use genuine Monmouths on your jobs—they save everybody money in the end. We also make gas-fired Humidity Conditioners for all radiator systems. Details and prices on request.

THE CLEVELAND HUMIDIFIER CO.
7808 Wade Park Ave., Cleveland 3, Ohio.

Always **KUT-A-SYZ COUPLINGS**

RIGHT SIZE

Fitted with detachable metal ends, KUT-A-SYZ Couplings are measured and cut with hacksaw to required length. Replace metal ends and the job is done! To make additional couplings, only end pieces are required. All parts interchangeable.

Made of finest quality oil-resistant rubber. Will make couplings of from 1½" to 8" long. Grooved to engage metal ends, they form a securely *gripped* joint.

- ✓ *Reduce Coupling Inventory*
- ✓ *Save Time on Service Calls*
- ✓ *Always Right Size Coupling*

WRITE FOR DETAILS NOW

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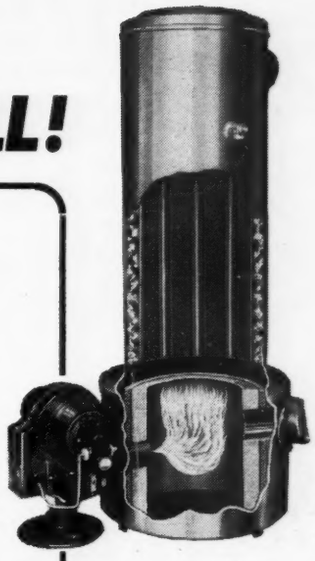
3612 E. Tremont Ave., N.Y. 61, N.Y.

Attention Manufacturers

We cut coupling shafts to your specifications or ship 7" lengths.

TWICE AS GOOD . . . AND
TWICE AS EASY TO SELL!



The double-duty dandy!—the two-in-one wonder! The answer to hot water *and* heating in the small home . . . and twice as easy to sell because it *does* twice as much!

You can recommend this G & C unit with complete confidence—for it's backed by 42 years of specialized engineering. Once installed, it's trouble-free—you don't have to go back on time-and-money-losing fix-it visits.

Check these features: heavy copper storage tank with copper fire tubes for high heat transfer—heavily insulated kiln-finish pre-cast refractory combustion chamber—heavily insulated against standby heat loss—equipped with automatic temperature and pressure relief valve—observation door for flame—beautiful finish in baked enamel. . . . Furnished less burner and controls, always specify the dependable double-duty unit:

THE G & C ALL-COPPER Oil Fired WATER HEATER

Contact your jobber now or write to us.

for 42 years

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COPPER IS ENDURING

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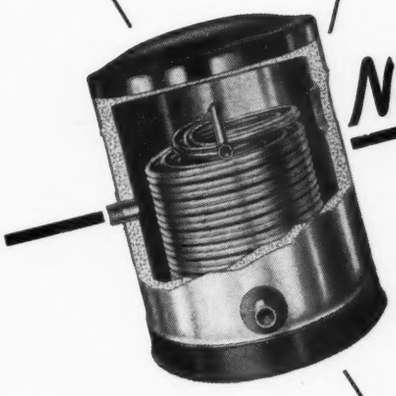

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IMITATED? . . . Yes—but the ALL-COPPER Tankless Heater originated by G&C can't be duplicated—has never been equalled—is still the *only* one of its kind! . . . Here are the features that make it superior:

It's ALL-COPPER—with boiler water shell of Heavy Gauge Copper—patented manifold construction produces maximum heat transfer with minimum pressure drop—constant up-flow of heated water through coils allows use of circulation line—aquastat connection in every heater—heavily insulated—Duco finish. . . .

For ample hot water at all times *without trouble*—for Guaranteed installations in homes of 1 or 100 apartments, always use

THE G & C ALL-COPPER TANKLESS HEATER

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fueloil & oil heat

of it. A tie-bolt which was still cold had put enough stress on the rapidly-warming boiler sections to break a big piece out of the firepot section. The boiler, it turned out, was more in need of replacement than repair after this happened.

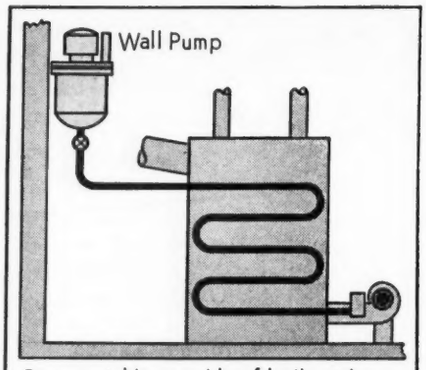
Warm up a boiler gradually, and don't fail to be very careful about this when, on a service call, you come across a hard-fired cast-iron boiler which hasn't had a fire in it for quite a few hours!

* * *

Fueloil Preheating

A service man tells about a hardworking low pressure burner which, tests showed, performed better on No. 2 oil than on the No. 5 oil the owner wanted to use in it. The service man reasoned that the oil from the outside storage tank, fed to the burner by a wall pump, ran cooler at the burner than it would with an inside tank. Using No. 5 oil, the same burner model seemed to work better on inside tank installations.

To take the chill from the oil going to the burner, the mechanic removed the insulation from one side of the steam



Copper tubing on side of boiler takes chill from No. 5 oil for low pressure burner connected to outside tank.

boiler fired by the burner, and fastened to the boiler about 15 ft. of ¾" copper tubing. The fueloil goes through this on its way to the burner. A generous thickness of insulation was applied to the boiler and the copper tubing on it. The service man reports that he judges his preheating arrangement increases the oil temperature by 15° when the burner runs continuously, and that now "the burner motor turns over much more easily, and the sparks in the firebox are smaller, like those that come from using No. 2 oil, showing the heated and thinned No. 5 oil atomizes more finely."

Quiet Warm Air Heat

Before you install a gun burner in a warm air furnace, wrap the end of the gun tube with asbestos paper. About four thicknesses of the paper should extend 6" back from the firing end of the gun tube. By preventing the metal gun tube from being in rigid contact with the metal of the furnace or the refractory material used in building the firebox, this leads to quieter operation. When you have finished building the firebox, cut away any of the asbestos paper which can be seen from the gun tube. Later, when the burner has been in use a month or so, check for air leaks around the gun and seal any you find.

If you receive a noise complaint as the result of a furnace's acting as a sounding board for hum or vibration from a gun burner, lift up the burner a fraction of an inch and budge it from side to side while it is running. If the noise decreases, settle the burner in its quietest position. As shifting the burner may create an air leak around the gun tube, you should locate and seal any leaks before you consider your work

Make Your Humidifying Jobs Automatic and Trouble-Free!

No. 5900-F WATER-BOY FEED VALVE furnished complete as illustrated.

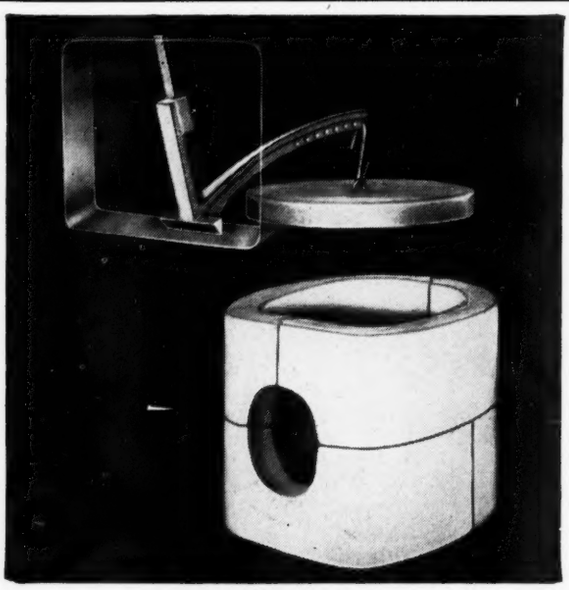
Complete unit that enables you to convert any hand fed pan into an automatic humidifier. Easily and quickly installed. Thumb screw adjustment permits control of water line. Fully adjustable for varying water pressures. Shipped with all necessary fittings and installation instructions. In every way a first-class, dependable outfit—nothing finer to be had. And priced RIGHT for you to make a liberal profit.

★ ★ ★

WRITE TODAY for engineering data and prices on entire MAID-O'-MIST line which also includes complete automatic humidifiers and heating specialties of highest grade. . . . . .

MAID-O'-MIST INC.
3221 N. PULASKI RD.
CHICAGO 41, ILLINOIS

AUTOMATIC HUMIDIFIERS FOR ALL TYPES OF HEATING SYSTEMS



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SPEEDS UP HEATING. Lowers Stack Temperature. Permits higher CO_2 readings. Decreases Formation of Soot. Lowers Combustion Noise, and pays its way in a few weeks. Send for
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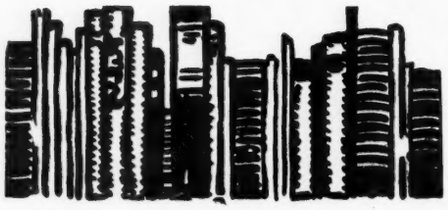
completed. To air-seal around a gun tube, use tightly-packed rock wool insulation together with a small amount of wet asbestos cement, as this will provide a certain amount of "give" between the burner and the furnace and firebox. On many warm air installations, cementing the gun tubes in place too tightly doubles or triples the amount of sound that is heard upstairs from the motors and pumps of the burners.

◈

Protests are being filed by gas users on the lines of the Long Island Lighting Co., N. Y., regarding gas bills received since the new rate increase. Estimates before the Public Service Commission indicated the average bill would increase 18% to 20% under the new rates. Users for home heating protest their bills are up 50% or more.

A gas rate increase application has been filed by Brooklyn Union Gas Co., with the New York Public Service Commission for the third time in a year. Two other increases were granted on July 25, and March 1, 1947.



THE BOOK SHELF

Issue Eighth Edition Of Petroleum Facts, Figures

THE EIGHTH EDITION of Petroleum Facts and Figures has been announced, the first edition since a lapse of six years caused by World War II. The edition contains all authoritative information about the petroleum industry that can be reduced to statistical form, including numerous illustrations to point up and augment printed data.

The book covers two epochal periods in American history—the war years from 1941 through 1945, and the beginning of a greater peacetime accomplishment in meeting an ever-growing demand for petroleum products. There are seven main divisions in the new volume's 236 pages: Utilization, production, refining, transportation, marketing, general information and world statistics.

The American Petroleum Institute, New York 20, N. Y., compiled the book and its Department of Information is filling orders placed for it. Price: $2.00.

New Engineering Databook Simplifies Estimating, Design

A 576-PAGE VOLUME of reference tables, charts and text has been published by Industrial Press under the title "Heating and Ventilating's Engineering Databook" by Clifford Strock. The book has an 8½" x 11" page size, with data organized into ten sections: Heat and moisture in air, fuels and combustion, piping, air handling and ventilation, heating and heat transmission, cooling and air conditioning, motors and drives, contract law, mathematical data and drafting room practice, and terminology. Intended for use by design, installation and operating engineers, the time-saving and large-scale charts simplify everyday estimating and design problems.

A useful and unusual feature is the section devoted to the law of contracts,

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Standard Equipment on the Majority of Oil Burners
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With Electric Ignition
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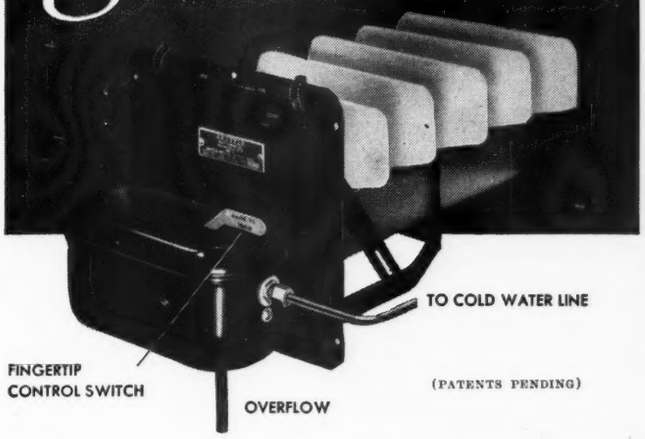
There's SALES APPEAL PLUS in the NEW Skuttle SERIES 600!



SELF-FLUSHING! SELF-CLEANING! QUICKLY, EASILY INSTALLED!

No doubt about it, the new Skuttle Series 600 is a "natural" for you . . . an all-purpose automatic humidifier that's loaded with quality features.

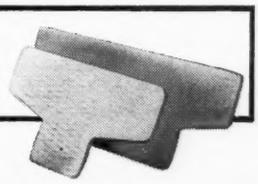
SELF-FLUSHING, SELF-CLEANING—Right! This new Skuttle unit takes the curse off cleaning. Just raise the fingertip control switch and Skuttle's exclusive vacuum-controlled cleaning system does the rest . . . flushes the entire unit, drains off all water, sludge, mud and mineral deposits, then refills again automatically. No hand scraping required! Other important features include drawn seamless copper pan (3" x 12"), five replaceable Vapoglas plates having 316 sq. in. evaporating area, automatic anti-siphon float control valve.

QUICKLY, EASILY INSTALLED—Just one hole in the plenum . . . that's all it takes to install the new Series 600! No rear supports needed! No clean-out panels required! Entire unit quickly removed for simplified, convenient servicing.

FLEXIBLE, ALL-PURPOSE UNIT—Keep your inventories at a minimum with the Series 600! It meets most humidifying requirements and it's adaptable, too, in sloping bonnets or straight plenums of both gravity and forced air furnaces. Just one unit to carry in stock!

Standard units equipped with 5 ft. copper tubing, saddle and needle valve.

VAPOGLAS PLATES MEAN REPEAT PROFITS FOR YOU!



For top efficiency, evaporating plates should be replaced once each heating season. And Skuttle's patented Vapoglas plates can bring you this yearly repeat business from every installation you make. They absorb 70% more water per pound than ordinary ceramic composition plates assuring maximum moisture output.

Cash in on the new Skuttle Series 600 . . . and keep on cashing in year after year with Skuttle's exclusive Vapoglas evaporating plates! See your local jobber now . . . or write today for state listings and the complete Skuttle Profit Story!

Skuttle
MANUFACTURING CO.
4099 BEAUFAIT
DETROIT 7 INDOOR COMFORT MICHIGAN

Furnace cleaning made easy!

General Electric Furnace and Boiler Cleaner gives you fast, thorough cleaning.

THERE'S MORE PROFIT than ever before for you with the new General Electric Commercial Vacuum Cleaner!

The powerful suction action quickly removes soot and scale from furnace interiors. You can clean more furnaces per day —and more thoroughly than ever!

Light in weight, simply constructed. One man can operate it, with no previous training.

Backed by the General Electric Company warranty. Special tools and accessories are provided. For further details, mail coupon below. General Electric Company, Bridgeport 2, Conn.

FAST • EFFICIENT • QUIET • ECONOMICAL

The New General Electric

Commercial Vacuum Cleaner

GENERAL ELECTRIC

A & M Department, Section 142, General Electric Company, Bridgeport 2, Conn.

Send descriptive literature concerning

( ) Wet and Dry Pickup Vacuum Cleaner
( ) Furnace and Boiler Cleaner

Name.....

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City.....**State**.....

wherein are discussed higher court decisions which apply specification to heating, ventilating and air conditioning cases. Each case used as an example is one in which an engineer or contractor was involved. Other legal subjects of interest are patent infringement, real estate law, relations with municipalities, mechanic's liens, withdrawals of bids and cost plus contracts.

Throughout the Databook emphasis is placed on the actual facts needed in design, with only sufficient text included to explain the use of the data. Information on the heat pump, electrothermal storage, snow melting, heating with diesel engines, solar water heating and radiant panel heating is included. Copies are available from FUELOIL & OIL HEAT's Book Department. Price: $7.00.

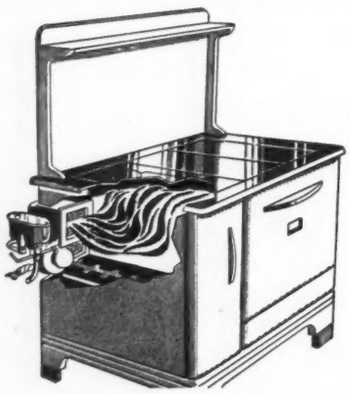
Profits!

Through the

SUPER-THERM

Combination

OIL BURNER



SALES prospects for this modernizing, easily installed oil burner are *all* owners of gas, wood and coal stoves and ranges. Super-Therm fits any size stove, front or rear —will last a lifetime—will not soot or smoke—has automatic safety features. Write now for details and *dealer profit* facts.

THERM OIL BURNER CO.

Pioneers of the Oil Burning Industry

2105A Westlake Avenue

SEATTLE 1, WASHINGTON

Announce Manual For Refrigeration Service

A MANUAL, containing detailed basic information pertaining to maintenance, service and repair of electrical and absorption refrigerations, has been announced. Step-by-step procedure instructs repairmen on problems they will encounter on the job and in the shop. "The Refrigeration Serviceman's Manual" has been written by Magnus and Marlott.

To make data readily available, the material is grouped in five main sections, the first discussing refrigeration theory, the second detailing seventeen major service operations, the third reviewing forty minor operations, section four covering shop operations and the last section describing sealed units and absorption systems. In addition there are included twenty-one tables, 139 illustrations, an appendix, a glossary and a comprehensive index.

The manual contains 704 pages, but measures only 4¾" by 7⅛", small enough to fit a coat pocket. The limp imitation leather binding is designed to withstand rough usage. Published by Wilcox & Follett Co., Chicago 5, Ill. Price: $5.00.

H & V Directory Ready

THE 1948 EDITION of the Heating and Ventilating Buyers' Directory is a 320 page, 5⅝ x 8¼ inch volume covering the fields of air conditioning, piping, heating, refrigeration, ventilation, air sanitation. It is primarily a product directory, listing the names of manufacturers or sources of supply of equipment, supplies and services.

A trade name section includes both current and obsolete trade names together with the product with which it is associated and the name of the manufacturer. Street addresses of manufacturers are listed separately in the closing section.

Published by The Industrial Press, 148 Lafayette St., New York 13, N. Y., the Buyers' Directory sells for $1.00.

Texas Eastern Transmission Corp., who leased the Big Inch and Little Big Inch pipelines from the federal government last May 1, and took formal title to them November 14, started daily delivery of 140 million cubic feet of natural gas on May 1 and stepped it up by the end of 1947 to 235 million a day. Earnings for the initial eight months of operation amounted to 36 cents each on 4.6 million common shares. By next summer the company expects to be delivering on a year round firm commitment basis to Philadelphia Electric Co. and Philadelphia Gas Works.

The average six room house without weatherstripping and proper insulation has the equivalent of an 8" hole in an outside wall, a spokesman for Shell Oil Co. has revealed. Stressing the importance of cutting heat loss to conserve fuel, it was explained that cracks under doors, around windows and in inadequately insulated walls add up to an opening almost the size of a basketball, through which heat escapes.

◈

South Carolina Spring

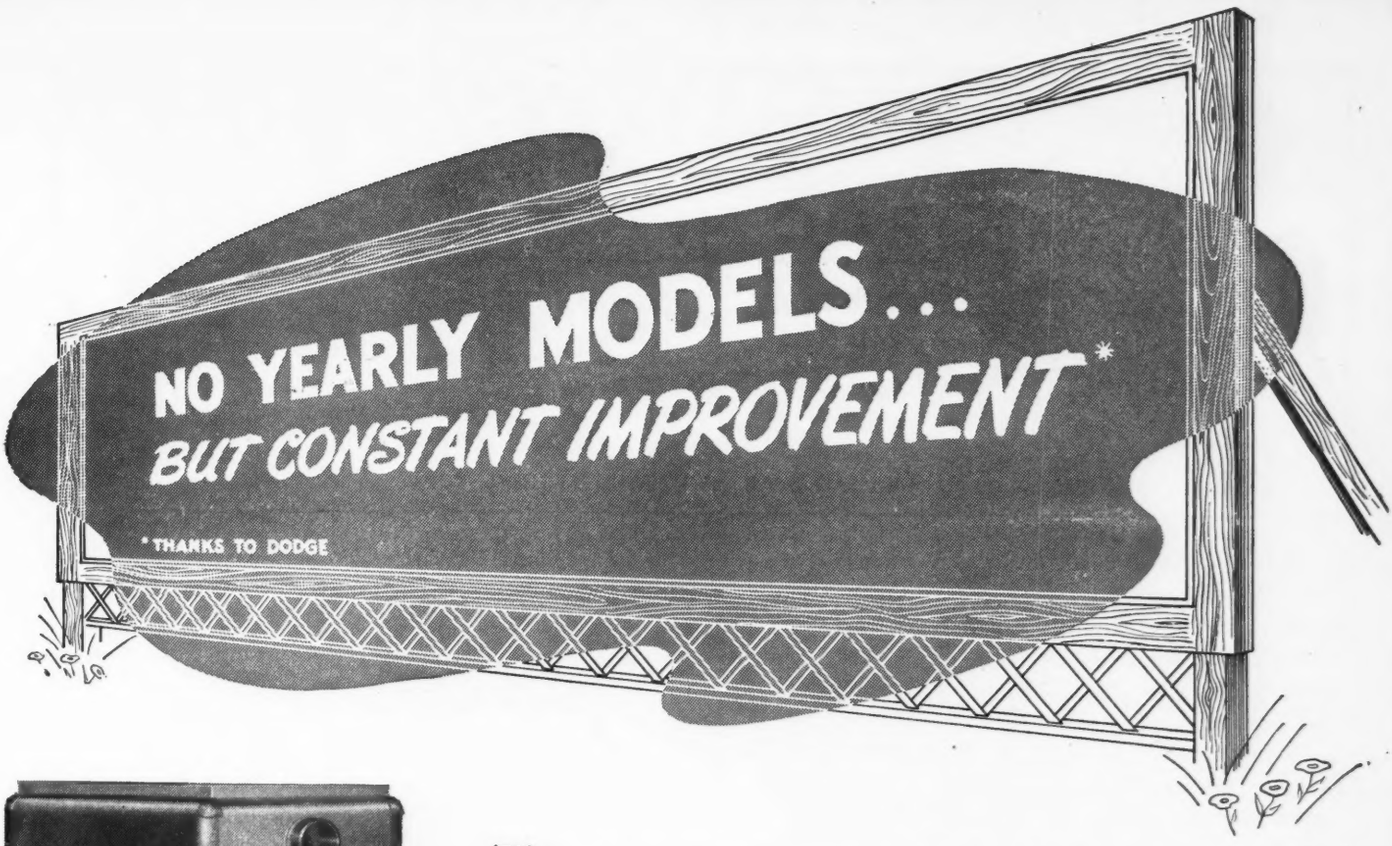
(*Continued from page 75*)

are at minimum, they have no problem about the winter. Conversion oilburner installations with a 1,000 gallon tank sell for $400 to $450, a price within range of those who don't buy space heaters.

One interesting practice in South Carolina is the supplying of oil tanks by the oil companies rather than the oilburner installers. The burner men actually install them, but the oil men buy and stock them. In only a relatively few instances are the oil and burner men the same people.

When a burner company, or a store selling space heaters, makes a sale they phone their favorite oil man and ask him to deliver a tank of specified size to a particular location. Naturally that tips off the oil man to a new potential account, so he sends a salesman to try and secure the oil business.

In South Carolina some curious things limit the number of oilheating installations other than sales resistance. For example, one of the largest oilburner out-



THE MOR-SUN pressed steel FURNACE is constantly and continually under test—both in the laboratory and in the field.

From raw material to finished product, MOR-SUN'S engineers, designers and technicians are checking and rechecking the operation of the MOR-SUN gas and oil-fired furnaces.

These past few weeks, for instance, MOR-SUN oil-fired equipment has been *made even better* with *new developments* in both furnace and burner—to meet substandard or poor quality oil supplied the consumer in some sections of the country . . . or to reduce the margin of error in installation due to lack of experienced personnel.

In other words, MOR-SUN furnaces are under constant surveillance *and receiving constant improvements*—to insure a reasonable margin of safety for field operation . . . to be as *trouble-free* as any piece of mechanical equipment can possibly be!

IT ALL ADDS UP TO . . .

- *Maximum heating service* for consumer!
- *Minimum service* calls for dealer!

MORRISON
STEEL PRODUCTS, INC.
BUFFALO 7, N. Y.

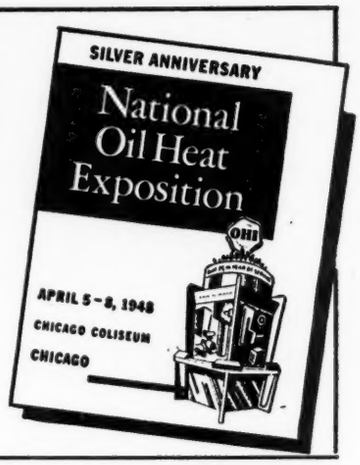
"The Sun Never MOR-SUN *Sets with MOR-SUN"*

fuelall oil heat

HI, FELLERS-
SEE ME AT
BOOTH 527!

REFRACTORY CEMENTS • COMBUSTION CHAMBERS
CHEMICALS

S.O.S. PRODUCTS CO., INC.
282-284 NASSAU AVE., BROOKLYN 22, NEW YORK



lets in Columbia, Kimball Heating & Metal Works, distributor for General Electric, is slowed down by lack of manpower. The company services some 1,500 burners spread over a 70 mile radius, with only two skilled men. These are the same men who would have to make the new installations. During the winter they are so busy with service needs, including long range driving time, that B. F. Kimball, the proprietor of the business, does not try to sell new jobs. Come spring, with less arduous work for the two men, Kimball knows where he can sell quite a number of new jobs. He will send a couple of additional men to the factory this year to be fully trained, so that next winter he can handle both service and new sales.

Then Lenaire Wolfe at Orangeburg is not pushing burner sales at the moment because, as previously mentioned, he must nearly always count on making a complete heating plant installation with each sale. Shortage of convector radiators and sheet metal for warm air jobs are the retarding factors to sales effort. As either of these items shows up in sufficient quantity for another installation, he rather promptly goes out and sells it.

The oil mens' trade association for the state is the South Carolina Oil Jobbers' Assn., of which W. L. Heinz is executive secretary. Outside of association activities, he runs the Central Oil Co. at Columbia. The association has done a number of interesting or at least "unusual" things, some of them proving that the state justifies its reputation as being composed of "rebels."

First, the association declined to go along with the A.P.I. public relations program, and instead has one of its own. Thus far it has run a series of newspaper advertisements educating the public on how to help itself get through the winter with a tight supply position. Now it is launching another series of ads to thank the public for its splendid cooperation, and promising less trouble in future.

The group has repeatedly advocated divorcement of marketing activities from the major suppliers, and is now petitioning congress to retain in action the Wherry Committee, feeling that it has accomplished a lot for marketers. The association meets once a month for a business session from 4 to 6 PM, followed by an informal dinner, which must clear out by 8 o'clock, to let all of the members drive home again that night. Columbia, where the meets are held, is within four hours drive of any part of the state. Some 40 jobbers in the association have a jointly owned tidewater terminal at Charleston, called Coastal Terminals, with 5 million gallon storage.

In general, the South Carolina oil-heating and fueloil outlook is good. New burners are now selling in modest quantity, and the marketers are convinced that the public won't be much concerned about this winter's supply problems, particularly now that the newspaper scare stories have about died out. As one burner man expressed it, "People have been through lots of shortages of one kind or another in the last few years, but that is no reason for them to change their desires for better living, nor to discard the good things they now enjoy."

STANDARD WATER TUBE BOILERS

A MODERN HEATING PLANT FOR BETTER HOMES!

designed for ECONOMY of OPERATION
DEPENDABILITY and
EFFICIENCY

Write for BULLETIN No. 108

Standard Heater & Oil Equipment Co.
245 CORNELISON AVENUE, JERSEY CITY 2, NEW JERSEY

SAVES 20% ON FUEL

Richfield's amazing new Turbulator Head. For details write:

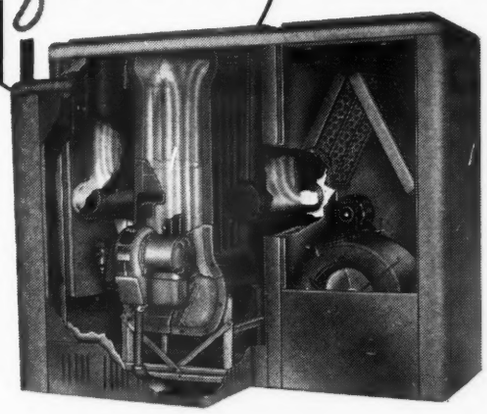
Richfield OIL BURNERS

315 Fifth Avenue
New York 16, N.Y.

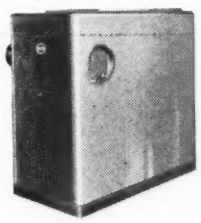
SELL THE *Finest* in Oil Fired AIR CONDITIONING

RUDY *Lifetime*

oil fired cast iron air conditioners



The Rudy Lifetime Oil-Fired Cast Iron Furnace is the aristocrat of furnaces. It is designed and built to the highest standards of performance for those home owners who demand air conditioned automatic heat at its best. Constructed of heavy cast iron, Rudy units retain and radiate heat long after the burner has been turned off, so air stratification is minimized and fuel saved. Rudys operate at lower temperatures and last longer. The famous Rudy Floating Flame burner does an outstanding combustion job. To those who want the best, you can sell nothing finer than the Rudy Lifetime Oil-Fired Cast Iron Air Conditioner.



Get the full story on Rudy Air Conditioners and Water Heaters today. Just send a postcard to—

RUDY ALL STEEL OIL-FIRED AIR CONDITIONER

Here is a less expensive, entirely automatic all steel oil-fired air conditioner also of high quality for volume operations—an ideal merchandising companion to the famous Rudy Lifetime line.

RUDY OIL-FIRED SIDE ARM WATER HEATER

The only water heater with Life-Cote* lining which minimizes corrosion and assures abundant rust-free water. Here is automatic hot water at very low first and operating costs.

RUDY

RUDY MANUFACTURING COMPANY

DOWAGIAC, MICHIGAN

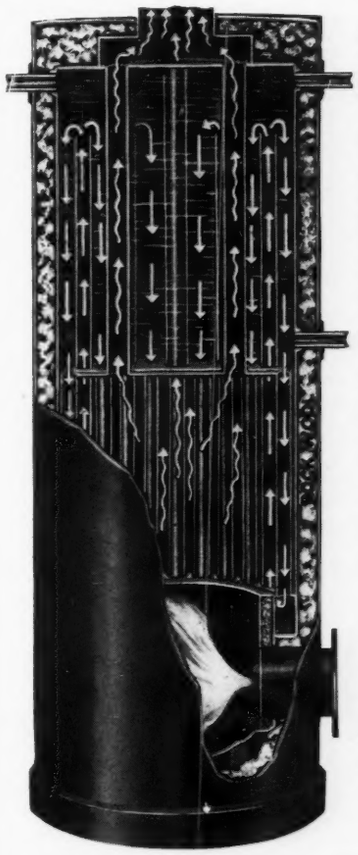
The Water Heater that pays for itself in Fuel Savings!

BROWN ELECTRIC

Automatic Gun Type Oil Fired

DOMESTIC WATER HEATER

The Percolating System with a size for every need



6 Sizes—65-125-175-300-500-650 Gallons per hour.

Water flows in at bottom of heater tank, does not disturb water already heated. Cool water is preheated as it flows downward thru short boiler tubes which surround the combustion chamber. Hot Water percolates upward thru long boiler tubes, continuous flow brings water into contact with prime heating surface.

Thoroughly galvanized within and without to prevent rust or rusty water.

Built in removal refractory. Legs are easily adjustable.

Enamelled outer dress shell—Chromium trim—a beautiful finish in keeping with the quality of its interior construction.

BROWN ELECTRIC Boiler Burner Units are built on the same principle as the Automatic Oil Fired Domestic Water Heater. Made in six sizes, with radiation ranging from 300 square feet thru 2160 square feet.

FUEL OIL STORAGE TANKS

U L Approved—275—550—1000 Gals., etc.

BROWN ELECTRIC COMPANY

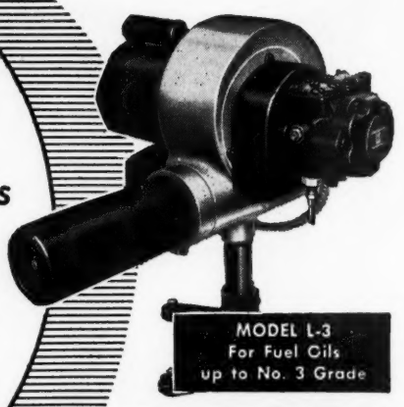
FOREST HILLS, N. Y.

MODELS JR & D4
Burn up to
No. 5 Grade Fuel Oil

RAYFIELD AUTOMATIC OIL BURNERS

REDUCE HEATING COSTS . . . INCREASE PROFITS

These two sturdy, efficient oil burners are built to give years of satisfactory service. Models for No. 5 heavy fuel oil operate on the diesel principle with a 2-cylinder compressor unit, integral oil pump, automatic pre-heating and lubrication. The Model L-3 for No. 3 oil is a precision-machined unit ideal for conversion installations with capacities up to 5 G.P.Hr.



MODEL L-3
For Fuel Oils
up to No. 3 Grade

C. L. RAYFIELD CO., 2010-18 S. Halsted St., Chicago 8, Ill.

Starting A New Burner

(*Continued from page 73*)

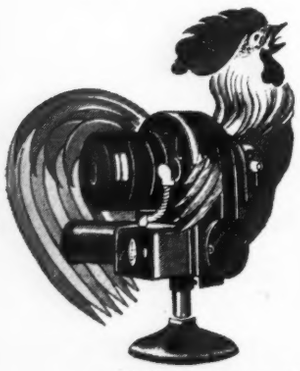
be started easily by running the burner motor for perhaps half a minute while permitting a small amount of air to escape from the pressure gauge port of the fuel unit. Certain installations start even without air-ridding, particularly when the fuel units contain a small amount of oil to begin with.

Occasionally an outside-tank installation proves stubborn about drawing oil from the tank, and special measures must be taken. (Of course, every outside tank installation should have a return line; where a return line improperly is omitted from an outside tank installation, one of the penalties of the omission may lie in extreme difficulty in air-ridding the fuel unit.) To persuade a properly-installed burner to pump oil from an outside tank, first run the burner motor for a few minutes with the gauge port of the fuel unit wide open. Remove the gauge plug or the gauge, and keep ready a can or a glass jar to catch fueloil when it gushes out of the opening. You can put a jumper on the safety control panel so that the motor will continue running and will not stop when the panel "goes off on safety." If that fails to bring oil from the tank to the burner, stop the burner, take off the top of a suction line strainer or remove the plug from a tee in the suction line or from the suction side of the fuel unit, and prime the pump with fueloil. Pour as much oil as possible into the opening you are using for priming, snap the burner switch on and off to give the pump a few turns and make it take the oil, then pour in some more oil for priming. Feed a quarter or a half a pint of fueloil into the fuel unit in that way, then close the opening used for priming, open wide the port used for air-ridding, and run the burner motor two or three minutes to try once more to draw oil from the outside tank. Rarely will this procedure fail to bring oil to the fuel unit. Where it fails, probably the fuel unit is weak or the suction line to the outside tank has bad air leaks.

The pressure gauge which you applied to the fuel unit should show about 100 lbs. pressure as soon as the pump has been purged of air, and within a split second the flame should light. Make certain at once that the flame burns clean and is stable, not likely to go out. If necessary to obtain fairly good, reasonably quiet combustion, make rough adjustments to the air damper which controls the amount of blower air given to the flame, and the air-handling parts in the gun tube of the burner.

Usually the flame can be adjusted more closely after half an hour to an hour of burner operation. Check, however, on the type of refractory material used for building the firebox. Find out if this can be fired continuously after the flame is first started, or if heat should be applied to it intermittently at first by starting and stopping the burner.

Because time is needed to raise the temperature of the firebox, the furnace or boiler, and the chimney to nearly normal temperatures before final flame adjustments are made, without wasting time the service man can check thoroughly on the items listed on the checklist which accompanies this article. To check on some of these items, the burner



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Instant Heat Oil Burner Corp.

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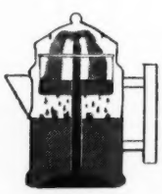
the flash-action **BOILER**

The amazing operating efficiency of the PERCOFLASH Boiler is found in its unique percolating principle of design. Water is flashed into steam in all heads with exceptional rapidity and efficiency. Geyser tubes raise water to steam heads eliminating the necessity of raising all water in boiler to steaming temperature. This means faster and more economical generation of steam. It's a fuel saver whether coal, gas or oil.

When you think of Percolating action, think of PERCO-FLASH!



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Write for Franchise Plan!

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Incorporated
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The Oil Burner Business* Has Not Gone to Pot

MANY thousands of oil burners will be *sold* this year at fair, competitive prices by progressive manufacturers—well engineered burners, using quality parts, with materials properly processed and assembled. Oil heat is still very much alive and growing. But *salesmanship* is vital to emphasize and *sell* Efficiency, Quality, Reliability, Service.

We believe we have that kind of a motor. Engineered specifically for oil burner application. Compact, cast stator and rotor, fool-proof lubrication. Lighter weight, meaning economy of handling and shipping for you. Switch failure eliminated, service problems at a minimum. Guaranteed starting of rated load at line currents from 85 to 130 volts.

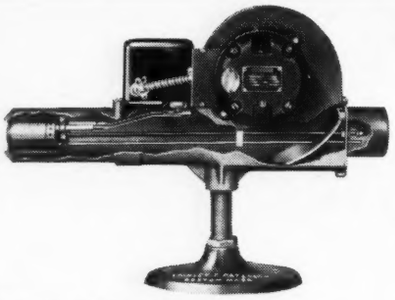
Test it out *now* so we may be prepared to supply you partially or entirely, but promptly, when you again require delivery—and you will.

Write for sample and further information.

ELECTRIC MOTOR DEVELOPMENT COMPANY

Wickliffe, ***Ohio***

**Including all types of oil burners.*



- Fuel savings up to 25% guaranteed.
- Clear soot-free flame with CO_2 up to 14½%.
- 7 models for homes, institutions and industry.
- Capacities from ½ to 15 gallons per hour.
- Choice of flange or base mounting.
- A Quality name in Oil Heat for 23 years.

If Your're Looking for an Outstanding Line--

Don't Overlook the **WALTHAM**

(With Shell Designed Combustion Head for Catalytic Oils)

We are opening up new territories and offering exclusive dealer franchises to progressive dealers who are willing to put real effort into promoting a superior product—one which has stood for quality for over 20 years. Check the WALTHAM features at left and if they are what you are looking for, write today for complete details.

Quiet-Automatic WALTHAM OIL BURNER

WALTHAM OIL BURNER CO.
789 Tremont St., Boston 18, Mass.

must be stopped. Stopping it through using different controls and switches saves time in checking on the wiring and the controls.

Here are the items which should be checked, although the following order need not be followed for the checking.

1. Wiring and controls. Use a test lamp to make certain the live and ground lines run to the proper terminals; the ground line should not be interrupted by switches or controls. Check every control and switch to make certain it can start and stop the burner properly. Check the differential or sensitivity of the room thermostat and of limit controls of the adjustable differential type, and set the limit controls properly. Check on the calibration of the room thermostat to ascertain that with it set at 70°, the room temperature will be about 70°. Check the safety control action. Start the burner with the stack control removed from the smokepipe; in about 90 seconds, the burner should stop "on safety." With the burner running, remove the stack control to check for flame failure protection.

2. Oil tank and piping. Inspect generally to make certain the equipment has been installed properly. Look particularly for oil leaks at an inside tank or near the burner. Inspect the tank gauge; try to find out if it is working properly.

3. Nozzle, ignition system, and gun tube parts. Starting and tuning the burner includes a thorough check-up on these.

4. Motor, fuel unit, and all vital parts of burner. Make certain the motor shaft spins easily. Check for quiet starting and running of the motor. After the motor has operated for some time, feel it to find out if it runs abnormally hot; good judgment is needed for this, for a motor which runs too hot to permit holding a hand on it firmly may be, if heavily loaded, running properly. Check on the proper operation of the shut-off valve of the burner, and inspect the pump shaft gland to make certain it does not drip fueloil.

5. Combustion, efficiency. After the final flame adjustments have been made, take readings of over-fire draft, smokehood draft, CO_2, and stack temperature. Take special pains to use the atomizing pressure and nozzle capacity and spray angle which give most efficient combustion together with dependable operation. Read the atomizing pressure on every installation. If you skip using a pressure gauge, you may assume that a fuel unit is adjusted for 90 or 100 lbs. pressure whereas actually it is giving as low as 80 lbs. or as high as 120 lbs. pressure. Field check-ups show that many fuel units are not factory set for 90 or 100 lbs. pressure. Make certain to use at maximum effectiveness any specially designed fuel saving features of the particular burner, such as well-designed and adjustable air-handling parts in the gun tube. It's best to use a good flame mirror for adjusting the air-handling parts at the end of the gun tubes of many modern burners.

6. Heating system output and performance with on-off oil firing. Go through the rooms of the house after the burner has operated long enough to raise the house temperature about five degrees, and obtain a general idea regarding how the heating system is working. Make certain that the main rooms, es-

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Sales potentials are high for these transformers which are now being used as original equipment by a large number of burner manufacturers. Replacement package deals are also offered. Complete advertising and promotion cooperation is assured. Correspondence will be promptly answered. We'd like to make appointments very quickly.

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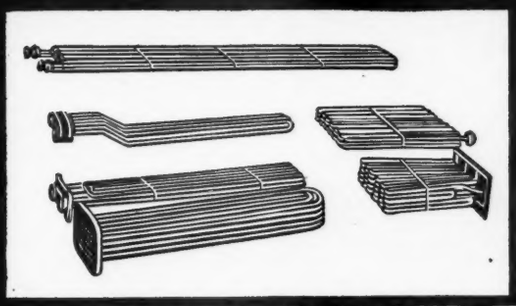
Kam Tankless Coils



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KAM WATER HEATER MFG. CO., INC.

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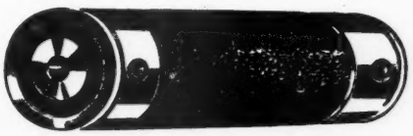
pecially the room in which the thermostat is located, heat easily and quickly. Obtain an idea regarding possible underheating or overheating of the different rooms; if there are problems, discuss them with the owner.

7. Instruct burner owner. Spend at least 15-minutes with the owner, telling him what he should know about the general operation, care, and shut-down remedies of his new oilburner. Cover such items as proper lubrication of the burner motor, keeping the flues clean, avoiding running out of oil, feeding water to a steam boiler which has no automatic feeder, replacing the filters of a winter air-conditioning system, modern vent-valves for an old one-pipe steam system, and steps the owner can take to minimize oil consumption. Instruct the owner in the care a burner should receive from a service man; recommend regular check-ups and tests made with combustion testing instruments. To increase the owner's pride in his new equipment, be sure to point out any special features of the oilburner or the installation in general.

8. Quick check-back within about 30 days. As within about a month the burner may need slight readjustment to insure maximum efficiencies and the owner may have questions about its operation, check back on a new installation within about 30 days. You will have fewer service calls if you follow this procedure. On your check-back, you may discover minor shortcomings which would cause trouble if not tended to promptly. Also, a new owner is not likely to cause service calls about minor questions which arise in his mind during the first month, if he knows that soon you will return to check the equipment and answer his questions. The big thing to bear in mind when you start a burner is to impress on the owner that within about 30 days you will return to check over the equipment and answer any questions which have come to his mind.

Of course, to provide the best in oil heating, you must start out with a house which can be heated economically, a good heating plant well suited to oil firing, thoroughly good planning of the installation, one of the best oilburners, and thoroughly good installation work. To top it off, you need the best work for final inspection, tune-up, and testing of a new installation. Despair need not be the result of a service man's finding himself without one of the prerequisites of a perfect installation when he faces a newly installed burner, however. If he does his best to make certain that the burner he is starting will give oil heating which is as dependable, comfortable, economical, and quiet *as can be produced in the certain house using the installed heating equipment,* he very likely will wind up with an oilburner owner who is completely satisfied. To make sure of obtaining stack temperature readings of 400° to 500° and CO_2 readings of 12% to 13% where these are within reach is indeed commendable. Still, results considerably below these levels often produce 100% user satisfaction, especially where excellent work at starting the burners makes certain that under the particular circumstances the oil heating is as satisfactory as possible.



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EVERYTHING FOR THE OIL BURNER TRADE

Oilheating Trends

(*Continued from page 11*)

some one company runs out completely. This latter method is workable only in smaller markets. Cities like New York and Philadelphia have had quite a few thousand hardship appeals, and while the substantial majority upon investigation proved to be space heater users rather than homes with central heating plants, the newspapers call them all oilburners and their fuel they call fueloil.

RECONVERSIONS: Asked if any of their fueloil customers had reconverted to coal during this winter, 22% of the reporting fueloil distributors say that they have lost one or more customers in this way. The number thus far is very small; several of the reporting companies say that a lot of their customers are talking about it because oil prices are going so high. This comment is most prevalent in the Midwest. Some others report a few reconversions in instances where an old boiler or furnace is worn out and a new heating plant must be bought. In such instances the householder may not reinstall his oilburner. In Westchester County, New York, there have been a number of conversions from oil to gas this winter, but that situation is not being reported from other areas. Obviously the whole reconversion idea will reach only slight proportions, but it is useful to periodically measure it.

LARGER TANKS: The desire by oilheating users to get larger tanks installed before next season, so as to have better control of their own supply, seems to have taken hold in all of the critical areas simultaneously. Among all fueloil distributors reporting from the East and Midwest, 76% have been asked for larger tanks, or have already installed some of them for present oilheating users. Thus far, the installations are few but dealers report a great deal of conversation among the customers. An attempt is being made by the Oil-Heat Institute to get Underwriters regulations changed to permit 550 gallons of basement storage in cities, and without having to use the three-way valve. It is now possible to install two tanks of 275 gallons each, except that they cannot both be connected to the burner at one time. Rather, the two must be connected separately through a three-way valve, with the customer having to go down and switch the valve from one tank to the other after the first is empty. The chances appear good to get 550 gallon storage approved without this monkey business.

BURNER SALES OUTLOOK: Oilheating dealers at the peak of their winter troubles are less optimistic over the burner sales outlook than they were a month ago. Fighting the many difficulties inherent in trying to keep people warm has made a lot of them quite gloomy. Among all reporting companies this month, nationwide, who were asked if they expected substantial oilburner sales during the Spring months, only 45% report that they do. Curiously, on the East Coast where the winter's troubles have been considerably worse than in any other part of the country, 57% of the reporting companies expect a good Spring for burner sales, while the areas with the pessimistic outlook are the Midwest and Far West that were not hurt nearly as much.

Typical of the comments on this ques-

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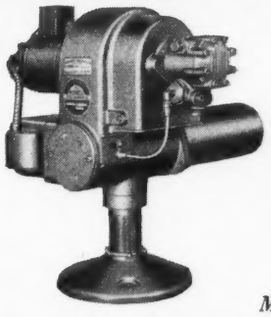

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tion of prospective oilburner sales are the following: "Unless the situation eases 1948 won't be good" . . . "Believe the public will forget very quickly and unless sales of burners are restricted, sales will be about 15% below 1947" . . . "Gas will make big advances in our market" . . . "Expect normal volume in new home sales only" . . . "People have no confidence in supply" . . . "We will not sell any burners unless we are assured enough oil to supply them" . . . "The present shortage is a disgrace to both our Government and the Majors; they knew it was coming; now the Navy releases oil—isn't that wonderful" . . . "If the oilburning public is not hurt any more than they have been so far a fair volume of new orders is in sight" . . . "We predict that oilburner business will be only 50% of last year's volume" . . . "Burner business will be bad until May" . . . "Curtailment of fueloil has put out of business many small companies; now the new credit terms of suppliers, cash in ten days, is the final stroke and will finish off all dealers who are financially weak."

"Every oilburner sale should be accompanied by an oil contract, with the dealers assuming this responsibility" . . . "I'm looking for the first robin and will kiss it with relish" . . . "Believe everyone should install an extra tank now and fill it in the summer" . . . "The real oilburner business will go on unless something worse happens" . . . "Major oil companies resist taking on additional customers; independent oil dealers prices are too high to attract many customers" . . . "We hope the majors will not cry Wolf too much."

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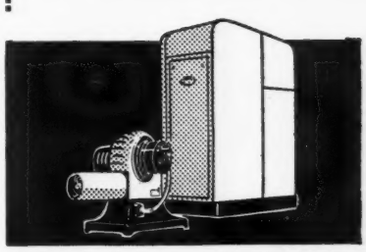

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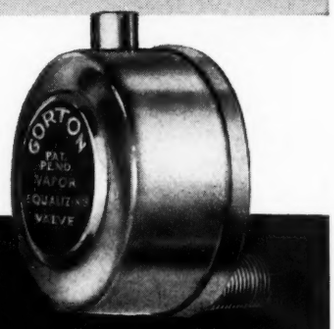

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NEwtown 9-4390

DEGREE DAY TABLES

ONE MONTH ONLY — January					SEASON TO DATE — (Sept. 1 to Jan. 31)			
Normal	1947	1948	Percent Change*		Normal	1947	1948	Percent Change*
1267	1213	1537	+ 21.3	Albany	3688	3453	4181	+ 13.4
662	592	846	+ 27.8	Atlanta	1837	1465	1960	+ 6.7
922	773	1104	+ 19.7	Baltimore	2569	1996	2699	+ 5.1
1101	1001	1294	+ 17.5	Boston	3188	2753	3383	+ 6.1
1220	1087	1443	+ 18.3	Buffalo	3604	3119	3745	+ 3.9
1219	1126	1457	+ 19.5	Chicago	3454	3139	3679	+ 6.5
1009	787	1210	+ 19.9	Cincinnati	2901	2605	2879	+ 0.8
1141	998	1391	+ 21.9	Cleveland	3315	2811	3515	+ 6.0
596	598	810	+ 35.9	Dallas	1540	1315	1743	+ 13.2
1026	983	1084	+ 5.7	Denver	3298	3235	2996	— 9.2
1326	1189	1414	+ 6.6	Des Moines	3750	3381	3696	— 1.4
1228	1105	1408	+ 14.7	Detroit	3597	3069	3688	+ 2.5
1249	1142	1395	+ 11.7	Grand Rapids	3705	3157	3650	— 1.5
1146	1063	1396	+ 21.8	Hartford	3363	2993	3705	+ 10.2
1337	1398	1235	— 7.6	Helena	4411	4856	4315	— 2.2
356	414	574	+ 61.2	Houston	876	768	1053	+ 20.2
1104	971	1305	+ 18.2	Indianapolis	3157	2686	3308	+ 4.8
1083	987	1235	+ 14.0	Kansas City	2960	2545	2960	. . .
276	285	219	— 20.0	Los Angeles	659	816	626	— 5.0
931	780	1181	+ 26.9	Louisville	2608	2075	2750	+ 5.4
1329	1220	1546	+ 16.3	Milwaukee	3844	3615	4081	+ 6.2
1597	1348	1697	+ 6.3	Minneapolis	4602	4314	4728	+ 2.7
319	300	591	+ 85.3	New Orleans	794	664	1249	+ 57.3
1025	865	1211	+ 18.1	New York	2884	2307	3015	+ 4.5
1287	1127	1393	+ 8.2	Omaha	3597	3268	3654	+ 1.6
962	830	1213	+ 26.1	Philadelphia	2661	2338	2901	+ 9.0
1043	892	1343	+ 28.8	Pittsburgh	3071	2592	3358	+ 9.3
1296	1349	1531	+ 18.1	Portland, Me.	3898	3853	4083	+ 4.7
775	862	787	+ 1.5	Portland, Ore.	2451	2792	2249	— 8.2
1103	983	1260	+ 14.2	Providence	3260	2789	3302	+ 1.3
999	877	1187	+ 18.8	St. Louis	2728	2360	2920	+ 7.0
1084	1330	1084	. . .	Salt Lake City	3308	3755	3387	+ 2.4
464	625	431	— 7.1	San Francisco	1394	1851	1404	+ 0.7
1573	1478	1716	+ 9.1	Sault Ste. Marie	4806	4601	4803	— 0.1
765	861	781	+ 2.1	Seattle	2577	2921	2530	— 1.8
1185	1021	1428	+ 20.5	Toledo	3463	3072	3745	+ 8.1
929	708	1110	+ 19.5	Washington	2654	1958	2697	+ 1.6

*Compared with normal.

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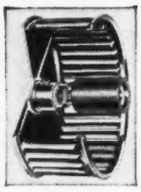

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